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ABSTRACT

Teaching is at the heart of education, and the single most important action the nation can take to improve schools is to strengthen teaching. A national certification system that reliably identifies teachers who meet high and rigorous standards can galvanize the entire system. In this volume, the National Board for Professional Teaching Standards (NBPTS) presents its initial policies and perspectives on teaching. The document presents discussions on: (1) significant challenges facing the American system of schooling; (2) a vision of how National Board Certification will influence educational policy and practice; (3) what teachers should know and be able to do; (4) fields in which certificates will be offered; (5) prerequisites for candidacy; (6) assumptions and guidelines that govern the National Board's research and development program; (7) education policy and reform issues that are related to National Board Certification; and (8) implementation plans of the NBPTS for the next several years. (IAH)

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# TOWARD HIGH AND RIGOROUS STANDARDS FOR THE TEACHING PROFESSION

ED337440

## Initial Policies and Perspectives of the National Board for Professional Teaching Standards

3rd EDITION

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National Board
FOR PROFESSIONAL
TEACHING STANDARDS

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## 3rd EDITION

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# Preface

In October 1987, the National Board for Professional Teaching Standards began its work to set new standards of accomplishment for the teaching profession and to improve the quality of education available to all children in the United States. With the first publication of this report in 1989, the National Board signaled the completion of the first phase of its development by defining the basic policies and plans that will guide its work in the years ahead.

In this third edition, the Preface, the description of the plans of the National Board (Chapter VIII) and lists of the board of directors and staff have been updated. Chapter III has been revised for clarification of intent and rationale, with the policy position placed before the supporting statement.

America is betting its future on its schools. Whether the concern is economic competitiveness, national security, the vitality of democratic institutions, the promise of equal opportunity or the quality of life for all citizens, improving the quality and productivity of the nation's schools is essential.

While many noteworthy efforts are being made to improve schools, none promises the potential for permanent and systemic transformation of teaching that is offered by the National Board: **to establish high and rigorous standards for what teachers should know and be able to do and to certify teachers who meet those standards.**

The National Board is governed by a 63-member board of directors, a majority of whom are regularly engaged in teaching elementary and secondary school children. The board also includes state and local officials with responsibility for elementary and secondary education, and leaders from the business community and higher education.

The contents of this report are, as the report's title indicates, the initial policies of the National Board. The NBPTS board of directors adopted these core policies only after it sought the advice and comment of dozens of leading education organizations and experts. Following release of the report the National Board itself is sponsoring national as well as state and regional forums to promote discussion of the policies and to obtain feedback.

The board of directors will periodically review its initial policies and, where appropriate, will modify them based upon suggestions from its many stakeholders, results from its research and development work, and conclusions reached in its own continuing deliberations.

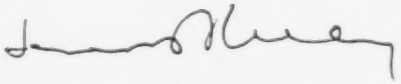
The National Board thanks the many persons who worked diligently to develop these policies. Special appreciation is expressed to Gary Sykes and Suzanne Wilson of Michigan State University for their assistance in drafting and re-drafting Chapter II, and to Marshall (Mike) Smith of Stanford University for his work on Chapter IV. David Mandel of the National Board's staff coordinated the Board's policy development work and the writing of this report. The National Board's entire staff has worked both hard and effectively to support and assist the board in its task of setting initial policy.

The NBPTS board itself deserves great credit for its dedication and commitment. This is a working board that is directly engaged in the substantive definition of its policies. Policy development was the board's highest priority during the past three years. All members of the board serve on one of three working groups that are the primary vehicles for preparing policy material for board adoption. Attendance is excellent at board meetings. Deeply rooted in the teaching profession, yet including in its deliberations officials from all segments of education and leaders of the business community, the board, in just a year and a half, achieved virtual unanimity of support among its

diverse members for the policies and plans presented in this report.

We on the National Board know that we have a chance to make a difference for teachers and teaching. By creating National Board Certification, we will applaud excellent teachers and set a goal toward which other teachers will strive. By being part of the national dialogue on education reform, we will influence decisions to be made about the professional working environment for teachers, the preparation and continuing professional education of teachers, and the recruitment of teachers, especially minorities. We are engaged in important, significant, and yes, difficult work.

Most importantly, we are doing it for America's children.



James A. Kelly
President and Chief Executive Officer

June 1991

# WHY AMERICA NEEDS THE NATIONAL BOARD FOR PROFESSIONAL TEACHING STANDARDS

# Why America Needs the National Board for Professional Teaching Standards

Two hundred years ago this nation was founded with the revolutionary idea that government exists to protect and serve individual citizens. The future of the new nation was to be determined by the values, opportunities and achievements of its citizens.

Education had already left its mark on the land. A prescient genius, Thomas Jefferson, had been educated by teachers who themselves had been taught by bold and innovative thinkers in England and France. Jefferson knew how central education was to the American dream. He declared: "A nation that seeks to be both free and ignorant, never was and never will be."

During these two hundred years America has undergone tremendous change. A continent was settled, wars were fought, and the population increased one-hundredfold, as the nation became the most diverse and pluralistic society on earth. Throughout these two centuries of change, the American people have embraced education as a cornerstone of society. This can be seen in America's long tradition of universal public education and in the active involvement of its citizens in the governance of schools.

Today, the American experiment stands at a crossroad. Built on the principles of freedom and equality and nourished by a system of common schools, the nation now finds its schools falling short in meeting the challenges of the modern world. Alarms have sounded in state capitals, in local communities and in many corporate board rooms. The country is beginning to understand that if America is to have a future with promise, it must have world-class schools, and that if America is to have world-class schools, it must have a world-class teaching force. The corollary of this is also true: to have world-class teachers, America must have world-class schools. The two go hand in hand.

Many excellent teachers already work in the schools. But their work regularly goes unrecognized and unrewarded. As a consequence, many first-rate practitioners leave the schools and others who could be exceptional teachers never consider teaching. Worse still, the knowledge and skills of the fine teachers who remain often are underutilized, their positive influence allowed only the most modest scope.

In recognition of these challenges the nation has begun to take several steps forward—one of them unprecedented. The leadership of the nation's education community has coalesced to create a National Board for Professional Teaching Standards.

Throughout this century teachers have stood by as one profession after another has established its credibility and grown in stature by creating national certification systems that set high and rigorous standards. Although similar systems have periodically been proposed for the teaching profession, the proposals languished.

Then, in 1983, the report of the President's National Commission on Excellence in Education, A *Nation at Risk: The Imperative for Educational Reform,* sharply heightened public concern, provoking a new wave of reform initiatives that engulfed the education community. Three years later, the Carnegie Task Force on Teaching as a Profession in its pivotal report, A *Nation Prepared: Teachers for the 21st Century,* called for the establishment of a National Board for Professional Teaching Standards. The following year this unique institution in the life of American education was born.

The mission of the National Board for Professional Teaching Standards is to establish high and rigorous standards for what teachers should know and be able to do, to certify teachers who meet those standards, and to advance other education reforms for the purpose of improving student learning in American schools. National Board Certification is designed for experienced, not beginning, teachers whose preparation and experience have enabled them to understand how theory translates into practice, to ascertain

what works, to learn how to judge student behavior and performance, and to practice as mature, professional decision-makers.

Offered on a voluntary basis, National Board recognition of experienced teachers is intended to complement, not replace, state systems of mandatory licensure for beginning teachers. State licensing systems set minimal standards to protect the public interest and to assure that a teacher will do no harm. Professional certification takes the next step to provide assurance of high-quality practice.

The National Board will verify accomplished teaching. Each state, school district and school will decide how best to capitalize on National Board Certification as it designs instructional arrangements to promote student learning and support professional practice. While conferring National Board certification on individual teachers will be a decision taken on a case-by-case basis, these singular transactions will have a profound cumulative impact on American education. The broad implications of the presence of Board-certified teachers in schools will take several years to emerge and can not be predicted with precision. The variety of perspectives that characterize education policy-making in the United States suggests that there will be variation in how National Board Certification will be viewed. Some jurisdictions will aggressively seize the moment, while others will be quite cautious. Consequently, while the ultimate impact of this new enterprise will be determined in part by the National Board's own work, it also rests on the actions of state and local authorities as well as on the decisions of individual teachers.

While the path to transforming American education can not be charted with a high degree of accuracy, the potential of the National Board to serve as a catalyst to improve the schools is not difficult to imagine. As the National Board succeeds in inspiring trust and confidence in its standards and assessment processes, it holds the promise of:

- Reshaping the public's perception of teaching, leading to a better appreciation of the demands on, and requirements for, accomplished practitioners;
- Encouraging a change in the dynamics of union-school board conversations to focus on how schools can best be restructured for improved performance;
- Increasing flexibility in the allocation of instructional resources to match the diverse and varying needs of students with the diverse talents of the teacher pool;
- Enhancing teachers' self-esteem, working environment and compensation;
- Rationalizing teacher hiring, assignment and evaluation policies;
- Creating more professional and educationally rewarding relationships among teachers and between teachers and administrators;
- Expanding the flow of first-rate people into teaching and stemming the outbound tide of accomplished professionals;
- Stimulating the design of more rigorous programs of teacher education and continuing professional development;
- Accelerating the growth and utilization of the knowledge base of teaching;
- Restoring public confidence in the schools.

Most importantly, however, when such changes in American education are taken together, National Board Certification holds the promise of significant improvement in student learning.

## SHAPING THE NATIONAL BOARD'S POLICIES

In the chapters that follow, the National Board presents its initial policies and perspectives on teaching. Chapter I sets the scene, describing significant challenges facing the American system of schooling, and suggesting a vision of the future of education in which the new system of National Board Certification is an active influence on education policy and practice.

The National Board's principal work during its first year and a half of operation was policy development. These efforts were organized around three central areas which provide the framework for Chapters II through VI that follow:

- Certification Standards
- Assessment Methods and Processes
- Education Policy and Reform

The heart of the National Board's conception of teaching is presented in Chapter II: "What Teachers Should Know and Be Able to Do." This is not only the necessary first step toward defining the National Board's standards, but will also serve to shape the research and development program on assessment methods and processes. In Chapters III and IV this general statement of what the National Board values in teaching is joined by the National Board's initial policy statements on framework (i.e., the fields in which certificates will be offered) and on prerequisites for candidacy (i.e., evidence of accomplishments, other than demonstrating proficiency on the National Board's assessments). Unlike some professions where a single certificate is awarded, teaching more closely resembles medicine wherein the breadth of subject matter is so formidable that no one practitioner can be expected to command it all. In such circumstances it is desirable to offer certificates in the various fields that together comprise the profession.

Collectively, these policies specify the objectives and parameters for developing standards in each certification field and define what it will mean to be a National Board-certified teacher.

An explication follows in Chapter V of the assumptions and guidelines that govern the National Board's research and development program. This program is designed to inform the National Board's final decisions about standards and yield trustworthy, reliable and affordable assessment procedures that will enable the National Board to begin the phase-in of its certification system in 1993.

In Chapter VI the National Board identifies education policy and reform issues that are related to National Board Certification and that will be priority areas for National Board attention:

- Creating a more effective environment for teaching and learning in schools.
- Increasing the supply of high-quality entrants into the profession, with special emphasis on minorities.
- Improving teacher education and continuing professional development.

The underlying premises guiding the selection of these issues are that they are areas in which National Board Certification will have a positive effect, and they are areas where new developments commend themselves for consideration by the National Board as it defines its standards and develops its assessment processes.

In Chapters II through VI the text is divided into two parts: policy positions that have been adopted by the NBPTS Board of Directors, and supporting statements that explain and illuminate the policy positions.

In Chapter VII the Board summarizes its implementation plans for the next several years.

# THE CHALLENGE TO AMERICAN EDUCATION

The debate about the current level of school performance often misses an important point: However fine or flawed the schools may be, the simple fact is that better results in education are needed. This is not an issue just for inner-city schools, but for all schools.

Better results are necessary because in a world made smaller by science and technology, an educated citizenry is essential to the sound functioning of a democracy and to economic growth. In this knowledge-driven world, a prerequisite for a prosperous and secure national future is a work force that commands more than basic skills. Adults must be able to communicate complex ideas in a compelling manner, take advantage of the latest advances in science and technology, solve problems neither they nor their teachers have ever seen before, and add real value to the goods and services they produce. However positive citizens' attitudes may be toward work, however responsible and reliable they may be, however sterling their work habits, they are essentially unemployable if they are not well-educated. They must be able to think for a living.

The bottom line is that the nation must dedicate itself to producing a kind and quality of education it has never before sought. In the midst of operating a system of "mass" education, it must create schools that treat each child as an individual, that embrace student learning as the highest value, and that foster distinguished teaching by drawing fully on the accumulated wisdom of the faculty. In years past this vision would have been dismissed as romantic; today it is not only desirable, it is a necessity.

America must have schools in which teachers focus their energies on making the most of the resources at their disposal. When staffed with accomplished teachers, schools should be permitted to operate unencumbered by external prescriptions that overlook the knowledge and expertise that teachers possess about the practices which best serve their students. In such settings innovative materials and methods are used creatively, new breakthroughs in technology are embraced, student initiative and inventiveness are both stimulated and applauded, and expectations are high for all students. Although such schools exist today, they are the exception, not the norm.

Creating such schools is no simple task. Fine-tuning the present system will not suffice. Overnight decrees from on high and exhortations to try harder will, by themselves, prove insufficient. Instead, systemic reform is required, for tinkering will not do. What is required, in fact, is no less than a revolution in teaching and learning.

An essential foundation for this revolution is to make teaching a profession dedicated to student learning and to upholding high standards for professional service and conduct. For too many of our nation's teachers, teaching is still organized essentially as assembly line work. Most teachers who display professional skill do so in spite of, not because of, the way schooling is organized in America.

## THE PROMISE OF NATIONAL BOARD CERTIFICATION

The National Board can not singlehandedly transform the schools. But the National Board can be a catalyst for lasting change. It can redefine teaching as a career by stimulating new incentive structures, staffing patterns and organizational arrangements. It can bolster reform in teacher education by casting the knowledge base in a richer light. Most importantly, as these related changes both increase the flow of first-rate people into the field and stem the tide of those departing, and as teachers' roles and responsibilities are more sensibly

structured, National Board Certification can become a pathway to improved student learning. The National Board must act in concert with other initiatives to make this promise a reality.

Teaching is at the heart of education, and the single most important action the nation can take to improve schools is to strengthen teaching. A national certification system that reliably identifies teachers who meet high and rigorous standards can galvanize the entire system. Understanding how this might occur begins with understanding the shortcomings of the current system.

Unlike physicians, architects or accountants, teachers have not codified the knowledge, skills and dispositions that account for accomplished practice. Consequently, there are widespread misconceptions about what constitutes good teaching. Some hold that it requires no more than knowing one's subject. Others think that caring about children is all that is essential. Still others believe that just knowing "how to teach" (as if such knowledge can be divorced from the two prior considerations) is sufficient. Actually, all of these attributes are necessary, but even taken together they are not sufficient. Accurately evaluating student needs and progress, translating complex material into language students understand, exercising sound and principled professional judgment in the face of uncertainty, and acting effectively on such judgments are also necessary conditions for teachers to excel.

Unfortunately, lack of attention to the act of teaching at the college and university level reinforces a cavalier attitude toward teaching in general. Too many Americans—school board members, administrators and many teachers included—believe that any modestly educated person with some instinct for nurturing has the requisite qualifications to teach. The National Board intends to change this view by presenting a compelling case for, and a more accurate description of, accomplished teaching.

Many schools are now organized as if all teachers were peas in a pod, indistinguishable one from another. This strains the imagination. In a profession of 2.5 million people, variations in knowledge and effectiveness are to be expected. Unlike other professions, the schools have, for the most part, been unable to accommodate their practices to account for the diversity that exists within the teaching work force. In no other profession are neophytes thrust into full service without a period of transition; in no other profession are demonstrated competence and success unrecognized and unrewarded; and in no other profession are human resources deployed inflexibly without reference to the needs of the client. Treating teachers as if they were all the same is inefficient and dispiriting. The National Board's ability to identify accomplished professionals in a fair and trustworthy manner can free the schools from a large part of this structural straitjacket.

Countless numbers of accomplished teachers regularly exercise sound professional judgment and practice in a principled and effective manner. But it is rare that such teachers are recognized for their accomplishments or asked to share their expertise with others. An occasional plaque or modest check is no substitute for formal recognition of demonstrated competence that relies on a rigorous process such as the advanced professional certification system the National Board is designing.

The absence of a credible and accepted method to recognize outstanding teaching sends a message that good teaching is not valued, and that the profession does not take itself or its responsibilities seriously. Moreover, because the incentive structure in schools fails to promote the spread of the knowledge and expertise of the most accomplished teachers among fellow faculty mem-

bers, schools fail to capitalize on these precious resources.

This state of affairs has come about not by accident but by design. Schools and the teachers and administrators within them function in the manner that they do as the result of deliberate policy decisions. Many of these decisions have been grounded in the reality that neither labor nor management has trusted the other to make fair distinctions among teachers. Until now, most attempts to recognize accomplished teachers have not only been characterized by limited teacher involvement in their origination, but also have not been based on high standards of professional practice; as a result teachers are understandably skeptical about such programs.

A system of National Board Certification that commands the respect of the profession and the public would make a critical difference in how communities view their teachers. Superintendents would encourage their teachers to acquire National Board Certification and would want to hire Board-certified teachers. No longer would the overriding objective be to fill each vacancy with the lowest-cost teacher; instead, districts that cared about the quality of education being provided to their students would have a strong incentive to see that a solid percentage of their teaching force was National Board-certified.

Perhaps, most importantly, new assignment procedures could be devised to capitalize on the wisdom and ability of the most accomplished teachers. Such behavior is second nature in professional-practice firms in architecture, accounting and law, where the most distinguished professionals accept the most demanding cases. Unfortunately, in many schools, the least experienced teachers are regularly assigned to the most disadvantaged students. Such a practice serves neither teachers nor students. In schools redesigned for improved performance, National Board-certified teachers would not only enjoy greater status, they would likely command higher salaries.

As National Board Certification signals that the teaching force is populated by many practitioners entitled to full professional standing, state and local authorities should find it easier to back away from instructional edicts that limit flexibility and stifle creativity at the school site. Providing more discretion so that those closest to the point of service delivery may use their distinctive knowledge of the client's needs should produce better results for students and yield a more stimulating and professionally rewarding work environment for teachers. Thus, National Board Certification can help to shape new roles for teachers in both instructional policy and staff development. Working in concert with principals, teachers would have the flexibility to assemble and reassemble school resources in response to their students' shifting educational needs. Such changes would enhance the likelihood that all school resources— time, people, money—are marshaled more effectively on behalf of student learning.

National Board Certification should lead to greater mobility and career opportunities for teachers. The arbitrary barriers that make it difficult to move from one state to another should be reduced for National Board-certified teachers, and within-district transfers to deploy teaching talent more equitably should be facilitated. This last consideration is especially important where there is a maldistribution of teaching talent hidden from view in the absence of a mechanism for identifying accomplished teachers. Once such inequities can be unambiguously observed, schools that have been slighted in the past will be on firmer ground to advance a claim for a fair share of the most able professionals.

By creating a new and more attractive career path for all teachers, National Board Certification should improve the schools' ability to retain able professionals, make the profession more appealing to bright and enterprising college students who enjoy many other promising options, and attract older Americans seeking new and rewarding careers. Such changes also hold promise for a reversal in the long-term trend of declining minority interest in teaching.

As the labor market has expanded for minority college graduates, many of these able young people have been attracted to other careers which offer more promising avenues for advancement, greater prestige and more attractive work environments. The result is that the schools no longer have a captive pool of talented minorities from which to draw. The pool itself has also been constricted by low college completion rates for minority youth. Broad scale reforms at all levels of American education are required to stem the loss of minority students all along the education pipeline. But even as progress is made on this front, being able to offer a more rewarding career, with decent pay and the prospect of professional standing, respect and responsibility is necessary if sufficient numbers of minorities are to find their way back to the teaching force.

National Board Certification will present colleges and universities with a new challenge and a new market. Coming on line at a moment when teacher preparation programs are reshaping their curricula, National Board Certification should have a constructive effect on efforts to redesign teacher education. National Board standards that stress the interaction of subject matter knowledge and pedagogy will pose a special opportunity to many higher education institutions where different faculties claim responsibility for each of these bodies of knowledge. The myth that there is nothing to know about teaching except what one learns from experience should lose credibility. With many initial candidates for National Board Certification coming from the current teaching force, there should emerge a new and burgeoning market for preparing teachers for the National Board's assessments. Institutions of higher education will be in a prime position to help practitioners evaluate their readiness for the National Board's assessments, and broaden and deepen their knowledge of the subjects they teach and the research on teaching.

When viewed narrowly, professional certification is a means to enhance the status and pay of teachers. These are worthy objectives in their own right. But when the connections between professional certification and the organization of instruction are examined, the potential to improve student learning can be seen quite directly. Through the potential to transform schooling, to leverage current investment in teaching and to build a system where increasing public investment makes more sense, the full value of National Board Certification is revealed.

## STRENGTHENING TEACHING AND INSTRUCTION

The stimulative effect that the National Board will have for positive change in American education will occur in fits and starts, moving rapidly in some locales, more slowly and deliberately in others. As this new national enterprise meets 2.5 million teachers, 14,000 school districts, thousands of private schools, 50 states and 1,200 schools of education, it will trigger a broad range of reactions. Each of these stakeholders in the American education community will decide for itself how and when it wants to recognize National Board-certified teachers and how and when it wants to link its future to the National Board.

Education, like many other sectors of American life, has exhibited extraordinary complacency even when confronted with clear signals demanding change. However, in the post-*Nation At Risk* years the country has witnessed a growing consensus that business as usual is a recipe for failure in a world transformed by major economic, social and demographic shifts. In this new environment, many education leaders and stakeholders have found the idea of a National Board for Professional Teaching Standards to be appealing. Without underestimating the difficulty of constructing a trustworthy system of national certification, there is widespread understanding that the creation of the National Board is long overdue and that, if well executed, its effects on teaching and learning could be powerful and long-lasting. Consequently, there has emerged a ground swell of goodwill across the country and many applaud the rapid and successful launch of this enterprise.

Among the reasons for this reaction are the changes described above that are anticipated in state and local policy and the related effects the National Board can have on the quality of the teacher workforce. Equally important are changes the National Board envisions in how instruction is conducted, in the growth of the knowledge base for teaching and in the patterns of professional development for teachers once they begin to practice.

At present, almost all the incentives for continuing professional development are wrapped up in salary schedules that reward the accumulation of graduate credits. It does not matter what is studied or whether it is related to a teacher's assignments. It does not matter if a teacher receives a high grade or a low grade, or, for that matter, if anything at all is learned that might strengthen the teacher's practice. All that counts is that one's card gets punched.

Recognition of National Board certificates will fundamentally change this equation. Suddenly, the selection of courses, the quality of instruction and the quality of a teacher's effort in the pursuit of knowledge and expertise will matter. Graduate courses and other staff development activities, including school-sponsored in-service training programs which contribute to the continuing professional development of teachers, will, indeed, become important. Once there is a way to reward and recognize teachers who can do more than just master the basic licensing requirements, the orientation of both teachers and administrators toward professional growth opportunities should change markedly. Peers will seek out accomplished teachers noted for their expertise. Novice teachers will request constructive criticism to improve their practice. Administrators responsible for encouraging and supporting teachers' efforts to attain National Board Certification will have a fresh perspective for judging the quality of the professional growth opportunities their schools provide and a new healthy concern for the manner and pace at which novice teachers mature into accomplished professionals.

Concurrently, interest will grow in the knowledge base for teaching. Intellectually curious teachers have long sought to understand and to apply the modest research that has emerged about teaching. But most school systems do little to encourage such exploration. The onset of National Board Certification should change these underlying dynamics in several respects. By codifying the knowledge base and drawing attention to the broad sweep of factors that constitute accomplished teaching, the National Board should not only change public perceptions of what is required for first-rate teaching, but also should change the perceptions of those who hire teachers. As the country moves from rather simplistic notions of the ingredients of

effective practice to more sophisticated models, greater appreciation of the demands and complexities of teaching should emerge. The National Board's research and development program will contribute to this movement and should both stimulate and assist parallel research efforts by the states and by individual scholars. Occurring at a time when there is a strong consensus that American education must improve, the National Board will strengthen the impetus already felt from many quarters to invest in the teaching knowledge base.

While the nation will discover that there is much more that is known about accomplished teaching than is commonly assumed, casting a new light on the practice of teaching will illuminate how modest the investment in research is for a sector of American life so crucial to the nation's future. Teacher interest in the knowledge base will also be piqued. For the first time in teachers' careers, it will be in their direct self-interest to have command of the knowledge base. Simultaneously capturing the wisdom of the nation's exceptional teachers will be seen as a crucial endeavor. Expert practitioners will become a valued commodity and acquire the respect and admiration they deserve from colleagues and researchers alike.

When it is recognized that among the nation's largest group of professionals there are many with special expertise, schools are but one step away from being changed in other ways. A major managerial challenge for the schools then becomes how best to deploy their most valuable resource, teachers, in a manner that maximizes the opportunity to utilize the knowledge, skill and expertise of the most proficient practitioners. This would include creating conditions that assure that the positive influence of National Board-certified teachers is felt not only by those few students who are directly assigned to such teachers, but by all students in the school. This can only be accomplished by changing the predominant "egg crate" model of schooling that isolates teachers one from the other, and by giving Board-certified teachers a role in instructional decisions.

More fluid and open models of schooling would emerge. They would be characterized by collaborative working relationships among teachers and administrators that encourage Board-certified teachers to share their knowledge and expertise with their colleagues. The toughest cases would be seen by the most accomplished professionals, and flexible instructional arrangements permitting different mixes of students and teachers would evolve as circumstances dictate.

There is no one magic recipe for how best to deploy a group of teachers. Each different mix of students presents a new set of challenges; each different mix of teachers brings a new pool of talents. The staffing pattern that makes sense in September might best be rearranged come November or February. But, with a modicum of imagination, a variety of organizational staffing arrangements can be identified that would be distinct improvements on the current lock-step approach.

A few examples should make the point. Think of an elementary school with only a single teacher well-versed in teaching science, not an odd circumstance on today's education landscape. It is difficult to justify having this teacher spend her entire time with a single fourth-grade class, when with a slight alteration in staff deployments it could be spent teaching science to several classes of students. During the course of the year the teacher might also be serving as a mentor for a first-grade teacher with a sound background in science who nonetheless is struggling to introduce students to the wonders and mysteries of nature. In time, the fourth-grade teacher's schedule might be adjusted as the first-grade teacher takes over the teaching of science for the primary grade

students and the fourth-grade teacher confines her science instruction to upper elementary school students.

Similarly, a middle school might have a mathematics teacher who is particularly adept at diagnosing student misunderstandings in mathematics. It would be in the school's interest to arrange this teacher's schedule so that she could review students' work from throughout the school. Her task would be to spot problems before they escalated, and to work with her fellow teachers in formulating a solution to each case. In some instances the solution might call for individual tutoring, in others the creation of a small work group, and in others a mix of strategies. The accomplished teacher would be able to suggest more than one approach to colleagues whose repertoire might be more limited, and, if called upon, could come to a class and demonstrate new techniques.

A different model might apply in a high school history department that has one teacher who is an expert on the Federalist papers and another who is similarly knowledgeable about immigration. The school might capitalize on the first teacher's special talent by arranging for every American history class to have one day set aside for this teacher, much as they might for a guest scholar. However, they might choose to take best advantage of their other faculty member not by having her journey from class to class, but by having her coordinate the development and oversight of a cross-disciplinary unit on immigration with the English department.

In each of these examples the school would choose a different means to improve student learning. What binds these strategies together is an orientation to examine objectively how students interact with the faculty and the faculty one with the other, and then ask the question, "Is instruction organized to take best advantage of the staff's particular expertise?"

The expertise teachers bring to the education of America's children depends in part on the nation's expectations for accomplished teaching. Teachers know that low expectations are a recipe for failure and that high expectations are a necessary, but not sufficient, condition for success. Consequently, nothing is more important to the success of the National Board than assuring that it has set its sights on the right mark.

In the next chapter the National Board presents its expectations for accomplished teaching.

# WHAT TEACHERS SHOULD KNOW AND BE ABLE TO DO

In this chapter, the National Board presents its view of what teachers should know and be able to do—its convictions about what it values and believes should be honored in teaching. This expression of ideals will guide the development of the National Board's certification standards and assessment processes.

The fundamental requirements for proficient teaching are relatively clear: a broad grounding in the liberal arts and sciences; knowledge of the subjects to be taught, of the skills to be developed, and of the curricular arrangements and materials that organize and embody that content; knowledge of general and subject-specific methods for teaching and for evaluating student learning; knowledge of students and human development; skills in effectively teaching students from racially, ethnically, and socioeconomically diverse backgrounds; and the skills, capacities and dispositions to employ such knowledge wisely in the interests of students.

This enumeration suggests the broad base for expertise in teaching, but conceals the complexities, uncertainties and dilemmas of the work. The formal knowledge teachers rely on accumulates steadily, yet provides insufficient guidance in many situations. Teaching ultimately requires judgment, improvisation, and conversation about means and ends. Human qualities, expert knowledge and skill, and professional commitment together compose excellence in this craft.

The National Board is a vanguard effort to develop professional standards for elementary and secondary school teaching. The Board-certified teacher will stand for professionalism in the schools, but the process will be voluntary. The National Board's responsibility will be not only to ensure that teachers who become Board-certified meet its professional standards of commitment and competence, but also to create standards and assessments that are so well regarded that America's accomplished teachers will decide to seek National Board Certification.

## POLICY POSITION

The National Board for Professional Teaching Standards seeks to identify and recognize teachers who effectively enhance student learning and demonstrate the high level of knowledge, skills, dispositions and commitments reflected in the following five core propositions.

### 1. Teachers Are Committed to Students and Their Learning

National Board-certified teachers are dedicated to making knowledge accessible to all students. They act on the belief that all students can learn. They treat students equitably, recognizing the individual differences that distinguish their students one from the other and taking account of these differences in their practice. They adjust their practice, as appropriate, based on observation and knowledge of their students' interests, abilities, skills, knowledge, family circumstances and peer relationships.

Accomplished teachers understand how students develop and learn. They incorporate the prevailing theories of cognition and intelligence in their practice. They are aware of the influence of context and culture on behavior. They develop students' cognitive capacity and their respect for learning. Equally important, they foster students' self-esteem, motivation, character, civic responsibility and their respect for individual, cultural, religious and racial differences.

### 2. Teachers Know the Subjects They Teach and How to Teach Those Subjects to Students

National Board-certified teachers have a rich understanding of the subject(s) they teach

and appreciate how knowledge in their subject is created, organized, linked to other disciplines and applied to real-world settings. While faithfully representing the collective wisdom of our culture and upholding the value of disciplinary knowledge, they also develop the critical and analytical capacities of their students.

Accomplished teachers command specialized knowledge of how to convey and reveal subject matter to students. They are aware of the preconceptions and background knowledge that students typically bring to each subject and of strategies and instructional materials that can be of assistance. They understand where difficulties are likely to arise and modify their practice accordingly. Their instructional repertoire allows them to create multiple paths to the subjects they teach, and they are adept at teaching students how to pose and solve their own problems.

### 3. Teachers are Responsible for Managing and Monitoring Student Learning

National Board-certified teachers create, enrich, maintain, and alter instructional settings to capture and sustain the interest of their students and to make the most effective use of time. They are also adept at engaging students and adults to assist their teaching and at enlisting their colleagues' knowledge and expertise to complement their own.

Accomplished teachers command a range of generic instructional techniques, know when each is appropriate, and can implement them as needed. They are as aware of ineffectual or damaging practice as they are devoted to elegant practice.

They know how to engage groups of students to ensure a disciplined learning environment, and how to organize instruction to allow the schools' goals for students to be met. They are adept at setting norms for social interaction among students and between students and teachers. They understand how to motivate students to learn and how to maintain their interest even in the face of temporary failure.

Board-certified teachers can assess the progress of individual students as well as that of the class as a whole. They employ multiple methods for measuring student growth and understanding and can clearly explain student performance to parents.

### 4. Teachers Think Systematically About Their Practice and Learn from Experience

National Board-certified teachers are models of educated persons, exemplifying the virtues they seek to inspire in students—curiosity, tolerance, honesty, fairness, respect for diversity and appreciation of cultural differences—and the capacities that are prerequisites for intellectual growth: the ability to reason and take multiple perspectives, to be creative and take risks, and to adopt an experimental and problem-solving orientation.

Accomplished teachers draw on their knowledge of human development, subject matter and instruction, and their understanding of their students to make principled judgments about sound practice. Their decisions are not only grounded in the literature, but also in their experience. They engage in lifelong learning which they seek to encourage in their students.

Striving to strengthen their teaching, Board-certified teachers critically examine their practice, seek to expand their repertoire, deepen their knowledge, sharpen their judgment and adapt their teaching to new findings, ideas and theories.

### 5. Teachers are Members of Learning Communities

National Board-certified teachers contribute to the effectiveness of the school by

working collaboratively with other professionals on instructional policy, curriculum development and staff development. They can evaluate school progress and the allocation of school resources in light of their understanding of state and local educational objectives. They are knowledgeable about specialized school and community resources that can be engaged for their students' benefit, and are skilled at employing such resources as needed.

Accomplished teachers find ways to work collaboratively and creatively with parents, engaging them productively in the work of the school.

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## SUPPORTING STATEMENT

We each remember the great teachers who touched our lives, kindled our interest and pressed us to do our best. We hold powerful images of such teachers. They exhibited a deep caring and love for children. They conveyed a passion for the subjects they taught, captivating their students with that passion. They approached their work with creativity and imagination, striving constantly to improve. As committed professionals, they were proud to be teachers.

The images of teaching that we share are deceptive as well as compelling. They emphasize teaching's external aspects, not its inner workings. If we fondly recall the great teachers of our past, we also typically see teaching as a humble undertaking. It concerns itself with the least powerful age group in society. It involves such seemingly routine activities as arranging seatwork, lecturing, reviewing and responding to students' efforts, and disciplining their behavior.

Historically, there is an enduring constancy in the organization of schools, of classrooms and of teaching itself. Self-contained classrooms, whole-group, textbook-centered instruction, teaching as telling, learning as the passive acquisition of facts, standardized testing—these patterns of schooling are as familiar as chalk dust. They constitute an unintended national curriculum that, as an unrelieved diet, does not adequately serve the educational needs of a diverse and dynamic society. Good teachers, of course, depart in many ways from these routines.

These pervasive images underestimate teaching's complexities and freeze the enterprise into forms that overlook its non-routine nature and the importance of independent professional judgment in the life of the accomplished teacher. But teaching is work of the most demanding sort, for teachers must make dozens of decisions daily, command a wide body of knowledge and skill, learn to react instantly, and be disposed to act wisely in difficult situations. And while there are principles and precepts, skills and techniques, to guide the work, teaching is also an activity with artistic aspects, a craft calling for reflection and judgment.

Although complicated, teaching nonetheless evokes simple, reductionist analysis. Much of the discourse on teaching and learning pulls apart what must be joined in practice. Chroniclers of teaching, for example, often assign the teacher's primary loyalty to the student or to the subject, with elementary teachers often characterized as "student-centered" and secondary teachers seen as "subject-centered." This dichotomy is false. Sound teaching merges commitment to students with allegiance to knowledge at all grade levels. All teachers must uphold the claims of knowledge, yet strive to build spacious avenues from such knowledge to students' understanding.

There is likewise a tendency to frame teaching either in terms of imparting valuable knowledge or as encouraging the acquisition of skills. But knowledge and skill are not disjoint. Knowledge—in the form of specific facts and organizing principles—is necessary to the exercise of most skills, just as a range of skills is

necessary to the acquisition and construction of knowledge. Knowledge and skill can not be pulled apart, nor can one assume pride of place over the other.

Another commonplace fallacy is to distinguish "basic" from "higher order" skills, and to regard mastery of the basics as a precondition to advanced forms of reasoning and functioning. Accomplished teachers realize that higher order thinking is the hallmark of successful learning at all levels. Students, for example, can not become good writers without engaging in complex problem-solving processes, nor can they effectively learn basic mathematics simply by memorizing rules for manipulating numbers. There can be no neat division of teaching labor along a basic-to-advanced skills continuum. All teachers must concern themselves with higher order skills, with the executive functions of reasoning and with students' capacities to monitor their own learning.

To unify these dichotomies in practice, however, requires skill, wisdom and judgment. Accomplished teachers constantly assess and adjust their practice to maintain fidelity to students and to subjects, to knowledge and to skills, and to basic and advanced functions. Professionalism in teaching entails the ongoing pursuit of these unities. Hence, teachers regularly find themselves confronting hard choices —sometimes sacrificing one goal for another, sometimes making compromises.

While teaching demands crisp reasoning and few settings yield to only a single approach, teachers do not have free rein to select any approach that strikes them as felicitous. Rather, their choices are anchored in their own experience and in the settled ground of the knowledge base that defines both efficacious and flawed practice. Being able to apply steady, disciplined judgment and reflective scrutiny within the bounds set by this constantly expanding body of knowledge is the hallmark of professionalism in teaching. As such, these values will be found at the heart of the standards the National Board will promulgate.

**On the Commitment to Professionalism In Teaching**

As its title indicates, the National Board is committed to professional standards for teaching. The term "professional" is an honorific in our society, and denotes occupations characterized by certain attributes. Chief among these are a body of specialized, expert knowledge together with a code of ethics emphasizing service to clients. The knowledge base typically provides substantial, but not complete, guidance for professional practice. Professionals possess expert knowledge, but often confront unique, problematic situations that do not lend themselves to formulaic solutions. Professionals must cultivate the ability to cope with the unexpected and act wisely in the face of uncertainty.

Professionals deal with urgent human problems: matters of life and death, justice, hope and opportunity. Essential to their work is the trust of clients. What warrants such trust is the obligation, upheld within the community of professionals, to pursue an ethic of service and to employ special knowledge and expertise in the interests of their clients.

These general observations apply to teaching, but with important distinctions. While teachers employ their knowledge and skill on students, they also strive to empower students to continue the quest for understanding, so that one day the pupil may surpass the instructor. In this regard, teaching is the most democratic of professions. It aims to place within the hands, head and hearts of students the means for them to teach themselves.

The ethical dimensions of teaching also distinguish it from other professions. Unique demands arise because the client's attendance is compulsory and, more importantly, because the clients are children. Thus, ele-

mentary, middle and high school teachers are obligated to meet a stringent ethical standard. Other ethical demands derive from the teacher's role as a model of an educated person. Teaching is a public activity; a teacher works daily in the gaze of his or her students, and the extended nature of their lives together in schools places special obligations on the teacher's behavior. Students learn early to read and draw lessons from their teachers' characters. Teachers, consequently, must conduct themselves in a manner students might emulate. Their failure to practice what they preach does not long elude students, parents or peers. Practicing with this additional dimension in mind calls for a special alertness to the consequences of manner and behavior. Standards for professional teaching ought, therefore, to emphasize its ethical nature.

**What the National Board Will Value in Teaching**

The rich amalgam of knowledge, skills, dispositions and beliefs that will characterize Board-certified teachers are clustered under the five core propositions presented above. What follows is an elaboration of these principles that goes to the heart of the National Board's perspective on accomplished teaching.

PROPOSITION #1: TEACHERS ARE COMMITTED TO STUDENTS AND THEIR LEARNING

Fundamental to the teacher's credo is the belief that all students can learn. Furthermore, they act on that belief. Accomplished teachers like young people and are dedicated to and skilled at making knowledge accessible to all students, even as they acknowledge their distinctive traits and talents. Success depends on teachers' belief in the dignity and worth of all human beings and in the potential that exists within each child. Teachers typically do not work one-on-one with students for extended periods of time because they are responsible for groups. But within this constraint, they are attentive to human variability and its influence on learning.

**Teachers Recognize Individual Differences In Their Students and Adjust Their Practice Accordingly**

To respond effectively to individual differences, teachers must know many things about the particular students they teach: Alex has a stutter, Maria loves science fiction, Toby is anxious about mathematics, Marcus is captivated by jazz. But accomplished teachers know much more—whom their students go home to at night, how they have previously performed on standardized tests, what sparks their interest. This kind of specific understanding is not trivial, for teachers use it constantly to decide how best to tailor instruction.

As diagnosticians of students' interests, abilities and prior knowledge, skillful teachers learn to "read" their students. When planning a unit on aging, for example, they will anticipate what concepts and activities certain students may find problematic. Watching a student work on a computer, they will look for signs of progress. By keeping a finger on the pulse of the class, teachers decide when to alter plans, work with individual students, or enrich instruction with additional examples, explanations or activities.

Proficient teachers learn from their experiences. They learn from listening to their students, from watching them interact with peers and from reading what they write. The information they acquire about students in the course of instruction subsequently becomes part of their general knowledge of education. Such monitoring and learning is

no easy feat. What teachers are able to see, hear and learn is colored by their own prior knowledge and experience. Thus teachers must, in their efforts to work with children different than themselves, monitor both what they see and hear, and what is not so close to the surface. They must strive to acquire a deep understanding of their students and the communities from which they come that shape students' outlook, values and orientation toward schooling.

**Teachers Have an Understanding of How Students Develop and Learn**

In addition to particularistic knowledge of their students, teachers use their understanding of individual and social learning theory, and of child and adolescent development theory, to form their decisions about how to teach. They are familiar with the concepts generated by social and cognitive scientists that apply to teaching and learning. Moreover, they integrate such knowledge with their personal theories of learning and development generated from their own practice. For example, accomplished teachers know that old theories of a monolithic intelligence have given way to more complex theories of multiple intelligences. Current thinking no longer casts "intelligence" as a context-free, one-dimensional trait. Instead, it recognizes different kinds of intelligence—linguistic, musical, mathematical, spatial, kinesthetic, personal. This perspective also holds that there are variations in the sources of intelligence (e.g., practical experience versus formal study) and the forms of intelligence (e.g., procedural skills versus propositional knowledge). Both their knowledge of these theories and their experiences in classrooms have taught teachers that each student has different strengths, perhaps even gifts. Teachers think about how to capitalize on these assets as they consider how best to nurture additional abilities and aptitudes.

Moreover, teachers recognize that behavior always takes place within a particular setting that, to some extent, defines the behavior. They know, for instance, that students who cannot flawlessly recite multiplication tables may still be able to multiply in other contexts (e.g., in calculating whether they have enough money for items at the grocery store). Accomplished teachers are aware that school settings sometimes obscure a clear vision of students' aptitudes and intelligences. Therefore, they strive to provide multiple contexts in which to promote and evaluate those abilities.

They also recognize the ways in which intelligence is culturally defined. That is, what is considered intelligent behavior is largely determined by the values and beliefs of the culture in which that behavior is being judged. Accomplished teachers recognize that in a multicultural nation students bring to the schools a plethora of abilities and aptitudes that are valued differently by the community, the school and the family. The knowledge skills, abilities and dispositions that are nurtured in a Native American community in the state of Washington will differ from those valued in an Hispanic community in Florida. Likewise, those cultivated by a suburban community in Utah will differ from those developed in urban New York. Thus, teachers are attuned to the diversity that is found among students and develop an array of strategies for working with it. This includ-ee providing educational experiences which capitalize on and enlarge the repertoires of learning and thinking that students bring to school.

**Teachers Treat Students Equitably**

As stewards for the interests of students, accomplished teachers are vigilant in ensuring

that all pupils receive their fair share of attention, and that biases based on real or perceived ability differences, handicaps or disabilities, social or cultural background, language, race, religion, or gender do not distort relationships between themselves and their students. This, however, is not a simple proposition. Accomplished teachers do not treat all students alike, for similar treatment is not necessarily equivalent to equitable education. In responding to differences among students, teachers are careful to counter potential inequities and avoid favoritism. This requires a well-tuned alertness to such matters and is difficult, as we have only modest knowledge of human differences and how best to respond to them. Hence, accomplished teachers employ what is known about ineffectual and effective practice with diverse groups of students, while striving to learn more about how best to accommodate those differences.

**Teachers' Mission Extends Beyond Developing the Cognitive Capacity of Their Students**

Teachers are concerned with their students' self-concept, with their motivation, with the effects of learning on peer relationships, and with the development of character, aspiration and civic virtues. These aspects of the student —important as they are in their own right— are also essential to intellectual development. Proficient teachers consider students' potential in this broader sense when making decisions about what and how to teach.

## PROPOSITION #2: TEACHERS KNOW THE SUBJECTS THEY TEACH AND HOW TO TEACH THOSE SUBJECTS TO STUDENTS

If one cardinal precept of teaching is a commitment to the welfare and education of young people, the other is a commitment to subject matter. Accomplished teachers are dedicated to exposing students to the social, cultural, ethical and physical worlds in which they live, and they use the subjects they teach as entrees into those worlds. Thus, elementary teachers know about geography and its relationship to commerce and history. Foreign language teachers know how language and culture interact and fuse. But, it is not sufficient that teachers know the facts that fall into these different content domains. Understanding subject matter entails more than being able to recite lists of dates, multiplication tables, or rules of grammar.

**Teachers Appreciate How Knowledge in Their Subjects is Created, Organized and Linked to Other Disciplines**

Teachers in command of their subject understand its substance—factual information as well as its central organizing concepts—and the ways in which new knowledge is created, including the forms of creative investigation that characterize the work of scholars and artists.

Physics teachers know about the roles played by hypothesis generation and experimentation in physics; mathematics teachers know the modes of justification for substantiating mathematical claims; art teachers understand how visual ideas are generated and communicated; history teachers know how historians use evidence to interpret past events; and English teachers understand the relationships among reading, writing and oral language. Many special education teachers have a slightly different orientation—focusing on skill development as they work to help moderately and profoundly handicapped students achieve maximum independence in managing their lives.

Understanding the ways of knowing within a subject is crucial to the Board-certified teacher's ability to teach students to think analytically. Critical thinking does not occur

in the abstract, for the thinker is always reasoning about something. Proficient teachers appreciate the fundamental role played by disciplinary thinking in developing rich, conceptual subject matter understandings. They are dedicated to exposing their students to different modes of critical thinking and to teaching students to think analytically about content.

Teachers represent the collective wisdom of our culture and insist on maintaining the integrity of the methods, substance and structures of disciplinary knowledge. In the face of pressures to portray knowledge in weak and diluted forms, they remain firm. Their role, however, is not just to reinforce the status quo. Rather, appreciative of the fact that there are multiple perspectives and interpretations in each discipline, accomplished teachers encourage students to question prevailing canons and assumptions to help them think for themselves.

It is sometimes assumed that elementary school teachers need not be equipped to approach their subjects critically. But all accomplished teachers, regardless of the ages of their students, are charged with teaching students about something, and in order to do so, they must appreciate its complexity and richness. Teachers must possess such knowledge if they are to help their students develop higher-order thinking skills—the hallmark of accomplished teaching at any level. Being able to engage elementary school children in the broad array of subjects they can profitably come to appreciate makes elementary school practice especially challenging. This does not imply that fourth-grade teachers should have the same command of biology as high school biology teachers. However, it does mean that they have an understanding of science that allows them to present basic precepts to their students and introduce them to the joy of discovering—and thinking about—the natural world of which they are a part.

**Teachers Command Specialized Knowledge of How to Convey A Subject to Students**

Knowledge of subject matter is not synonymous with knowledge of how to reveal content to students so they might build it into their systems of thinking. Accomplished teachers possess what is sometimes called "pedagogical content knowledge." Such understanding is the joint product of wisdom about teaching, learning, students and content. It includes knowledge of the most appropriate ways to present the subject matter to students through analogies, metaphors, experiments, demonstrations and illustrations. Subject-specific knowledge also includes an awareness of the most common misconceptions held by students, the aspects that they will find most difficult, and the kinds of prior knowledge, experience and skills that students of different ages typically bring to the learning of particular topics. Proficient science teachers, for example, know that some students have misconceptions about gravity that can influence their learning, while proficient art and music teachers know that young children arrive at school at various stages of maturity with respect to eye-hand coordination. Teachers use this knowledge of their students to structure instruction that facilitates further development.

Thus, subject-specific pedagogical knowledge is not a bag of tricks, but a repertoire of representations that combines instructional techniques with subject matter in ways that take into account the mix of students and school contexts that confront the teacher. Such subject-specific teaching knowledge embodies a way of reasoning through and solving the problems that arise in the daily work of teachers—decisions ranging from what aspects of the subject matter to emphasize to decisions about how to pace instruction.

In making these choices, teachers bring to bear their knowledge of students and learning and teaching and subject matter.

Professional teachers' instructional repertoires also include knowledge of available curricular resources such as primary sources, models, reproductions, textbook series, teachers' guides, videotapes, computer software and musical recordings. Their commitment to learning about new materials includes keeping abreast of technological developments that have implications for teaching; for example, how to engage students in the rapidly expanding field of computer technology, as well as how to use the computer to enhance their own teaching. Thus, able teachers keep current with the growing body of curricular materials—including literature available through their professional organizations—and constantly evaluate the usefulness of those materials based on their understanding of curriculum theory, of students, of subject matter, and of the school's and their own educational aims.

### Teachers Generate Multiple Paths to Knowledge

Knowledgeable teachers are aware there is value in both structured and inductive learning. That is, while it is useful to teach students about the concepts and principles that scholars have generated in the various disciplines, it is also valuable to engage students in learning by discovery, where they themselves search for problems, patterns and solutions. Proficient teachers help students learn to pose problems and work through alternative solutions, in addition to teaching them about the answers that others have found to similar problems.

The posing and solving of problems on their own is central to the development of true understanding by students—moving far beyond the rote memorization of facts, the easy manipulation of formulas or the facile playing of a musical scale. Teaching for understanding requires students to integrate aspects of knowledge into their habits of thinking, rather than simply store fragmented knowledge bits. It also means learning to think in a nonlinear way, approaching issues from different angles, weighing multiple criteria and considering multiple solutions. Thus, in the eyes of the proficient teacher, "knowledge" is not conceived narrowly as a lower level form of understanding. Rather, knowledge is cast in the richest light—as a combination of skills, dispositions, propositions and beliefs—integrated and flexible, elaborate and deep. Furthermore, understanding involves the ability to apply such knowledge to problems never before encountered by teacher or student. Accomplished teachers appreciate that this is the kind of knowledge and understanding that counts, and that this type of learning can not be rushed.

## PROPOSITION #3: TEACHERS ARE RESPONSIBLE FOR MANAGING AND MONITORING STUDENT LEARNING

Professional teachers hold high expectations for all students and see themselves as facilitators of student learning. To fulfill these responsibilities teachers must create, enrich and alter the organizational structures in which they work with young people. They also find ways to capture and sustain the interest of their students. Because time is a precious commodity in schools, teachers attempt to make the most efficient use of it. To accomplish these tasks, teachers seek to master the body of generic pedagogical knowledge.

### Teachers Call on Multiple Methods to Meet Their Goals

Accomplished teachers know and can employ a variety of generic instructional skills—how to conduct Socratic dialogues,

how to lecture, how to oversee small cooperative learning groups. Although much of instruction is determined by the content to be taught, there are some commonalities about teaching methods that guide their practice. They are aware of what can reasonably be covered in a 45-minute roundtable discussion, when to hold back and let students figure out their own solutions, and what types of questions provoke the most thoughtful conversation. But it is not sufficient that teachers know about different modes of instruction; they also must know how to implement those strategies. Traditional distinctions between knowing and doing have obscured the fact that thought and action interpenetrate in teaching—knowing about something and knowing how to do something are both forms of understanding central to teaching.

Because students vary in learning styles and because different settings afford differing learning opportunities, accomplished teachers know when and how to alter the social and physical organizational structure of the learning environment. It is not enough to be a master lecturer, for there are many times when lecturing is not an effective way to teach. An outdoor experiment, a mock trial or an economic simulation, for example, may be more appropriate. Alternatively, a playlet or a debate might be a more effective way to engage students in thinking and learning. Teachers know about the breadth of options available to them, such as innovative instructional formats that involve discovery learning, conceptual mapping, brainstorming, working with computers, as well as more traditional tried-and-true methods.

Teachers not only have the opportunity to vary instructional settings and to employ a range of instructional materials, they also have the opportunity to call on various human resources to custom-tailor the working environment for students. Accomplished teachers know how to mobilize students to tutor their peers and how to engage aides and volunteers as teaching assistants. In schools where staffing arrangements are not fixed and inflexible, teachers also have a good appreciation of their colleagues' skills and the circumstances in which their colleagues' talents can best complement their own. Professional teachers wisely enlist the knowledge and expertise of their fellow faculty members in a variety of ways as they seek to provide their students with as rewarding a learning experience as possible.

Accomplished teachers also know the strengths and weaknesses of these options, and their suitability or incompatibility for certain students and groups. The settings that a teacher chooses are not just matters of personal preference, but are grounded in the literature of teaching. Teaching, to the accomplished teacher, is an elegant web of alternative activities in which students are engaged with the content; sometimes with the teacher, sometimes with each other, sometimes alone.

### Teachers Orchestrate Learning In Group Settings

Teachers know how to manage groups of students. They are responsible for setting forth the social norms by which students and teachers act and interact, helping students learn to adopt appropriate roles and responsibilities for their own learning and that of their peers. This includes teaching students to work independently without constant direct supervision by a teacher.

Accomplished teachers have developed systems for overseeing their classrooms so that student and teacher alike can focus on learning, not on controlling disruptive behavior. Discipline and management techniques vary, and no one system has been proven most effective. Hence, proficient teachers consider the desired learning results, their

knowledge of their students and the social context, and their own prior experience in selecting management strategies.

Teachers also know that different instructional formats often require different norms of social interaction. Accomplished teachers can alternate among organizational arrangements and understand how different structures cast students and teachers in different roles. Applying their knowledge of the relative strengths and weaknesses of different structures, they weigh these considerations when deciding which instructional strategy and organizational structure will best enhance student learning. They also continually search for new forms of organization that may expand their repertoire and prove effective.

**Teachers Place a Premium on Student Engagement**

Facilitating student learning is not simply a matter of placing young people in educative environments, for teachers must also motivate them, capturing their minds and hearts and engaging them actively in learning. Thus, the Board-certified teacher understands the ways in which students can be motivated and has strategies to monitor student engagement. The teacher's role in building upon student interests and in sparking new passions is central to building bridges between what students know and can do and what they are capable of learning.

Proficient teachers also know that motivating students is not always equivalent to making learning fun, for learning can be difficult work. Developing an acute sense of one's body in dance, for example, requires intense intellectual and physical concentration. Writing a short story requires drafting and re-drafting, editing and re-editing, occasionally submitting oneself to the critiques of peers and teachers. To practice effectively, teachers need to know how to encourage students even in the face of temporary failure and the inevitable doubts that students meet as they push themselves to new affective, intellectual and physical planes. With such learning comes the real joy in education, the satisfaction of accomplishment.

**Teachers Regularly Assess Student Progress**

While teachers are not always the central actors in their students' educational experiences, they are ultimately responsible for the creation and maintenance of those experiences, and bear a considerable responsibility for what students learn at school. Proficient teachers, therefore, can judge the relative success of the activities they design. They can track what students are learning (or not learning), as well as what they, as teachers, are learning.

Assessment in teaching is not a simple task; teachers must monitor the successes and failures of individual students and evaluate their classes as collectives of learners. Additionally, they make judgments about themselves as teachers in relation to those students and classes. Although these judgments are interdependent of one another, they are not necessarily synonymous. One of the essential tensions of teaching is that teachers teach individual students, while managing groups. Accomplished teachers do not treat a class as a monolith. They know that a class does not learn; individual students do. But individuals neither learn the same things, nor learn at the same pace.

Accomplished teachers use information about how the students in their classes are doing "on average" as a guide to making judgments about the relative success or failure of an instructional strategy. But they do not forget that there are few average students. They know that some students have moved far beyond that "average" evaluation, while oth-

ers trail. And while they have to make decisions about what to do with the class as a whole, proficient teachers find ways to accommodate what they know about individual students and what they are learning in their plans for the whole group.

Accomplished teachers understand that the purposes, timing and focus of an evaluation affect its form. They are astute observers of students—their movements, their words and their minds. Teachers track student progress with a variety of evaluation methods, each with its own set of purposes, strengths and weaknesses. Their knowledge extends to creating their own, sometimes innovative tools for evaluation, including portfolios, videotapes, demonstrations and exhibitions. In addition, they may use more traditional measures such as quizzes or exams. Sometimes teachers ask questions in the middle of a group discussion in order to assess how well students are following the presentation of information; or they may talk individually with students while they are engaged in independent work. At other times they watch their students' behavior as they read to each other or work in the laboratory.

Teachers frequently do not assign grades, for evaluation is not always for the purpose of recording grades; rather, it allows students and teachers to assess where they stand. Teachers also assess students to determine how much they have learned from a unit of instruction, be it a week on seeds, a semester of photography, or a year of athletic training. Student responses then contribute to teachers' decisions about whether to reteach, review or move on. By continually adding to their repertoire of methods for assessing what students have learned, as well as constantly monitoring student progress, accomplished teachers are able to provide constructive feedback to students, parents and themselves. Finally, such teachers help their students to engage in self-assessment, instilling in them a sense of responsibility for monitoring their own learning.

### Teachers are Mindful of Their Principal Objectives

Teachers also know about planning instruction—identifying and elaborating educational objectives, developing activities to help them meet their goals and drawing upon resources that will serve their purposes. Experienced teachers do not all plan alike. Some do not write elaborate plans prior to teaching, having automated their planning through years of experience in classrooms. Other teachers plan in detail (e.g., creating individual educational plans for special education students). No matter what form their final plans take—scribbles on a scrap of paper or lengthy and detailed outlines — accomplished teachers can clearly articulate their goals for students.

## PROPOSITION #4: TEACHERS THINK SYSTEMATICALLY ABOUT THEIR PRACTICE AND LEARN FROM EXPERIENCE

As with most professions, teaching requires an open-ended capacity that is not acquired once and for all. Because they work in a field marked by many unsolved puzzles and an expanding research base, teachers have a professional obligation to be lifelong students of their craft, seeking to expand their repertoire, deepen their knowledge and skill, and become wiser in rendering judgments. Accomplished teachers are inventive in their teaching and, recognizing the need to admit new findings and continue learning, stand ready to incorporate ideas and methods developed by others that fit their aims and their students. What exemplifies excellence,

then, is a reverence for the craft, a recognition of its complexities, and a commitment to lifelong professional development.

### Teachers are Continually Making Difficult Choices That Test Their Judgment

The demands of teaching often present stiff challenges that do not lend themselves to simple solutions. Conflicting objectives regularly require teachers to fashion compromises that will satisfy multiple parties. A Western Civilization teacher, for example, attempting to reconcile demands for coverage with demands for in-depth understanding, will do what is necessary to race from Plato to NATO, yet set aside time to develop in students the understanding that history is evolutionary rather than a series of events strung together chronologically. Likewise, a third-grade teacher will find a way to introduce students to the idea that writing is a thinking process, while ensuring that students are learning the basics of spelling and grammar.

Teachers also face choices that force them to sacrifice one goal for another. For instance, teachers who are committed to teaching mathematics for conceptual understanding want to teach students to see number relationships in the real world, to represent them with appropriate symbols, and to use their knowledge of mathematical formulas and computational skills to manipulate those numbers. Such teaching requires giving students time to frame their own problems, find their own solutions, and compare those solutions with alternatives posed by their classmates. Students who have learned through experience that math class involves filling out worksheets and doing problem sets may dislike the uncertainty inherent in problems with multiple or no solutions; they may be troubled that their teacher now wants them to discuss the reasons why a particular solution makes sense. Abandoning speed and accuracy as the criterion of success may temporarily jeopardize students' performance on standardized tests, even as the teacher fosters growth in the depth of students' mathematical competence. In deciding to teach in this way, a teacher risks alienating students, parents and administrators who have their own strong ideas of what math class is supposed to look like and the kind of competence it is supposed to yield.

Such circumstances call on teachers to employ their professional knowledge of what makes for sound practice, with the interest of their students given paramount consideration. While more than one satisfactory path may be derived to balance non-complementary objectives, the teacher's decision will be grounded in established theory and reasoned judgment.

### Teachers Seek the Advice of Others and Draw on Education Research and Scholarship to Improve Their Practice

Aware that experience is not always a good teacher, proficient teachers search out other opportunities that will serve to cultivate their own learning. As savvy students of their own teaching, they know the value of asking others to observe and offer a critique of their teaching. They also know the value of writing about their work and of soliciting reactions from parents and students. Thus, masterful teachers develop specialized ways to listen to their students, colleagues and administrators, and reflect on their teaching in order that they might improve their practice.

Able teachers are also students of education scholarship and are cognizant of the settled and unsettled territory in their field. They stay abreast of current research and, when appropriate, incorporate new findings

into their practice. They take advantage of teacher centers and special conferences and workshops. They might conduct and publish their own research, if so inclined, for testing of new approaches and hypotheses is a commonplace habit among adept teachers, even if a normally overlooked and undocumented one.

Wise teachers understand the legitimacy and limitations of the diverse sources that inform teaching and they continuously draw upon them to enrich their teaching. Their enthusiasm for, and commitment to, continued professional development exemplifies a disposition they hope to nurture in students. Hence, the thinking, reasoning and learning that characterize first-rate teaching are doubly valuable: not only are thoughtful teachers able to teach more efficiently and effectively, they are also models for the critical, analytic thinking that they strive to develop in our youth. Teachers who are themselves exemplars of careful reasoning—considering purposes, marshaling evidence and balancing outcomes—are more likely to communicate to students the value and manner of such reasoning. Moreover, they model other dispositions and traits as well, such as a commitment to creativity in their work and the disposition to take risks in exploring new intellectual, emotional, physical or artistic territories.

Proficient teachers, then, are models of educated persons. Character and competence contribute equally to their educative manner. They exemplify the virtues they seek to impart to students: curiosity and a love of learning; tolerance and open-mindedness; fairness and justice; appreciation for our cultural and intellectual heritages; respect for human diversity and dignity; and such intellectual capacities as careful reasoning, the ability to take multiple perspectives, to question received wisdom, to be creative, to take risks, and to adopt an experimental and problem-solving orientation.

## PROPOSITION #5: TEACHERS ARE MEMBERS OF LEARNING COMMUNITIES

Teaching most commonly is regarded as the daily conduct of lessons and the provision of learning experiences. But the work of teaching reaches beyond the boundaries of individual classrooms to wider communities of learning. In order to take advantage of the broad range of professional knowledge and expertise that resides within the school, accomplished teachers have a range of duties and tasks outside the direct instruction of students that contribute importantly to the quality of the school and to student learning.

There are two broad areas of responsibility. One involves participation in collaborative efforts to improve the effectiveness of the school. The second entails engaging parents and others in the community in the education of young people.

### Teachers Contribute to School Effectiveness By Collaborating With Other Professionals

Teaching is often portrayed as the implementation of policy and curriculum developed by others—as following orders. The National Board advocates a more proactive and creative role for teachers: engaging them in the analysis and construction of curriculum, in the coordination of instruction, in the professional development of staff and in many other school-site policy decisions fundamental to the creation of highly productive learning communities.

While state authorities and local school district leadership establish broad goals, objectives and priorities for the schools, professional teachers share responsibility with colleagues and administrators for decisions about what constitutes valuable learning for students. This includes their participation in

critically analyzing the school curriculum, identifying new priorities and communicating necessary changes to the school community. Teachers' knowledge of curriculum and their students are essential to discharging these responsibilities effectively. But a readiness to work collaboratively on such matters and not blindly accept curricular conventions is also necessary.

Accomplished teachers attend to issues of continuity and equity of learning experiences for students that require school-wide collaboration across the boundaries of academic tracks, grade levels, special and regular instruction and disciplines. Such boundaries, constructed as much out of traditional patterns of school organization as out of instructional rationales, are often dysfunctional and damaging to student learning. Board-certified teachers cultivate a critical spirit in appraising such schooling commonplaces, together with a willingness to work with administrators toward school-wide improvements that can include revision of organizational as well as instructional features of schooling.

The development of curriculum and the coordination of instruction are particularly important functions shared among teachers and administrators. Proficient teachers collaborate in planning the instructional program of the school to assure continuity of learning experiences for students. They possess the interpersonal skills needed to work on teams and a willingness to work together in the interest of the school community. Their understanding of the technical requirements of a well-coordinated curriculum enables them to participate in planning and decision-making within teams, departments or other educational units outside the classroom, laboratory or studio.

Consonant with their role in curriculum planning and coordination, teachers are aware of the learning goals and objectives established by state and local authorities. Professional practice requires that teachers be knowledgeable about their legal obligation to carry out public policy as represented by state statute and regulation, school board directives, court decisions and other policies.

Accomplished teachers also participate in the coordination of services to students. Today's schools include a wide variety of educational specialists, and with increasing specialization has come the need for coordination, lest pupils' educational experiences become fragmented. The increased practice of "mainstreaming" special-needs students to assure that they are being educated in the least restrictive environment has meant that general and special education teachers need to work with one another. Compensatory education programs typically involve teaching pupils outside regular school settings. The various forms of English as a second language, bilingual and English-immersion programs often require cooperation among teachers of non- and limited-English speaking youth. Board-certified teachers are adept at identifying students who might benefit from such special attention and at working in tandem with specialists.

In addition to working on the improvement of school-wide curricula and the coordination of instruction, teachers work together to strengthen their teaching. Sometimes they observe each other teach; at other times they engage in discussions about teaching; and occasionally they collaborate in trying out new instructional strategies. While the particulars of how teachers choose to improve their instruction will vary according to the structure of opportunity and a teacher's dispositions and interests, the principle underlying such engagement is the continuous pursuit of teaching excellence in the company of peers.

Strong schools emphasize a process of continuous improvement. They are organized

to find and solve problems and to locate, invent and experiment with different methods of instruction and school organization. Teachers within such schools work not only on professional development, but also on school-wide improvements. This expectation is part of what constitutes a professional orientation to teaching and part of what distinguishes the professional teacher.

The conventional image of the accomplished teacher as solo performer working independently with students is narrow and out-dated. Committed career teachers assume responsibility in cooperation with their administrators for the character of the school's instructional program. They are team players willing to share their knowledge and skill with others and participate in the ongoing development of strong school programs. This participation may take many forms, such as mentoring novices, serving on school and district policy councils, demonstrating new methodologies, engaging in various forms of scholarly inquiry and artistic activity, or forming study groups for teachers.

### Teachers Work Collaboratively With Parents

Teachers share with parents the education of the young. They communicate regularly with parents and guardians, listening to their concerns and respecting their perspective, enlisting their support in fostering learning and good habits, informing them of their child's accomplishments and successes, and educating them about school programs. Kindergarten teachers, for example, can help parents understand that reading stories to their children is more important to literacy development than completing worksheets on letters.

In the best of all worlds, teachers and parents are mutually reinforcing partners in the education of young people. But three circumstances complicate this partnership. First, the interests of parents and schools sometimes diverge, requiring teachers to make difficult judgments about how best to fulfill their joint obligations to their students and to parents. Second, students vary in the degree and kind of support they receive at home for their school work. The effects of culture, language, and parental education, income and aspirations influence each learner. Teachers are alert to these effects and tailor their practice accordingly to enhance student achievement. However, when faced with an unavoidable conflict, the teacher must hold the interest of the student and the purposes of schooling paramount. Third, the behavior and mind-set of schools and families can be adversarial. Some parents are distrustful of the school's values and the schools sometimes underestimate the family's potential to contribute to their children's intellectual growth. Students get caught in the middle, their allegiance to and affection for each party challenged by the other. Accomplished teachers develop skills and understandings to avoid these traditional pitfalls and work to foster collaborative relationships between school and family.

The changing family structure in our society creates new challenges as well, for there are now more youth with single parents, working parents and parents with inadequate income. Thus, creating home-school partnerships has become more difficult for teachers and parents in many communities. In attempting to work creatively and energetically with families in the interest of student development, able teachers acquire knowledge and understanding of individual students' lives outside school. A teacher's foremost responsibility is to the intellectual development of our youth, but they are mindful of the broad range of children's needs, including the need for guidance and the strong presence of caring and nurturing

adults. This is a difficult set of obligations to fulfill. On the one hand, teachers are prepared neither by training nor by role to serve as parent surrogates or social workers. The distinctive mission of teaching is to promote learning, a complex undertaking in itself. On the other hand, education's broad and humane purposes do not admit any narrow specialization. Students' physical, emotional, and social well-being can not be separated from their intellectual growth.

**Teachers Take Advantage of Community Resources**

Professional teachers cultivate knowledge of their school's community as a powerful resource for learning. The opportunities are many for enriching projects, lessons, and study: observing the city council in action; collecting oral histories from senior citizens; studying the ecology of the local environment; visiting a nearby planetarium; drawing the local architecture; or exploring career options on-site. Any community—urban or rural, wealthy or poor—can be a laboratory for learning under the guidance of an effective teacher. Moreover, within all communities there are valuable resources such as other teachers and students, senior citizens, parents, business people and local organizations that teachers can engage to assist, enhance and supplement their work with students. Teachers need not teach alone.

Teachers also cultivate knowledge about the character of the community and its effects on the school and students. They develop an appreciation of ethnic and linguistic differences, of cultural influences on students' aspirations and expectations, and of the effects of poverty and affluence. Cultural and other discontinities between home and school frequently can confound teachers' efforts to promote learning. Conversely, the cultural diversity represented in many communities can serve as a powerful resource in teaching about other cultures, in encouraging tolerance and understanding of human differences, and in promoting civic ideals. Accomplished teachers seek to capitalize on these opportunities and to respond productively to students' diverse backgrounds.

There is a balance here. Schools and teachers cannot alleviate all the social problems that they encounter. Yet teachers confront the human condition daily in all its variety, splendor and misery. They must be humane, caring and responsive to students and their problems, while they maintain a focus on their distinctive professional responsibilities.

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## CONCLUSION

Accomplished teaching involves making difficult and principled choices, exercising careful judgment and honoring the complex nature of the educational mission. Teachers employ technical knowledge and skill, yet must be ever mindful of teaching's ethical dimensions. The primary mission is to foster the development of skills, dispositions and understandings, while responding thoughtfully to a wide range of human needs and conditions. Teachers owe joint allegiance to the forms and standards of knowledge within and across disciplines and to the students they serve. They must acquire and employ a repertoire of instructional methods and strategies, yet remain critical and reflective about their practice, drawing lessons from experience. Teachers' professional responsibilities focus on instructing the students in their immediate care, while they participate as well in wider activities within the school and in partnership with parents and the community.

Teaching is often portrayed as a conserving activity—transmitting culturally valued

knowledge and skills to succeeding generations. It is that and more. Teachers also have responsibility to question settled structures, practices and definitions of knowledge, to invent and test new approaches, and, where necessary, to pursue change of organizational arrangements that support instruction. As agents of the public interest in a democracy, teachers through their work in school contribute to the dialogue about the kind of society they seek both to preserve and improve, and they initiate future citizens into this ongoing public discourse.

In the development of its assessment procedures and certification standards, the National Board will seek to represent these ideals faithfully and comprehensively. But it acknowledges that even state-of-the-art assessments probably cannot fully capture teaching's complexities, and the standards it eventually will ask candidates to meet may not be as rich as the portrait of a Board-certified teacher sketched above. Still, wishing not to limit its view of professionalism in teaching by the assessment technology of the moment, the National Board plans to embark on a program of research and development to ascertain the extent to which it can incorporate this vision of teaching into its assessments. Over time, the National Board will strive to improve and refine its assessments, so that the vision will merge with the reality.

Questions will arise about relationships and priorities among the assertions made here. What is most important to excellence in teaching, and what is peripheral? What is necessary for all teachers, and what is optional? What constitutes minimally acceptable levels of competence? Are there principles of substitution, such that demonstrated knowledge and skill in one area may compensate for deficiencies in another? Should superior performance be required in at least one domain, or special consideration be given candidates with extraordinary facility in a particular aspect of teaching? To become Board-certified, must a teacher master all that is claimed here in the name of professionalism and excellence? These are difficult issues that will be addressed as the National Board's standards are defined in operational terms during the next stage of policy development.

Assertions about what teachers should know often conceal inadequacies in the current state of knowledge. In this respect, teaching is not unlike other professions where practitioners confront unavoidable uncertainty in their work. However, the knowledge base for teaching is growing steadily. Professional consensus and research findings have begun to provide authoritative support for knowledge related to many of the tasks, responsibilities and results of teaching. But much remains to be learned. The National Board will draw on existing knowledge in developing its standards, but also will rely on the professional judgment of accomplished teachers and scholars in designing its assessment procedures. Recognizing that new knowledge about teaching is continually being formulated, the National Board will establish a regular review process to consider new findings and to update its standards as appropriate.

The National Board will also have to consider the effects of school context on standards for teaching. The very existence of a National Board suggests common standards that prevail across teaching's many settings. However, teaching in an Alaskan village exacts demands far different from teaching in Chicago. Teachers in both settings, though, blend and adapt their knowledge of teaching with their knowledge of the community in which they work to ensure effective student learning. The lessons teachers learn, the wisdom of practice that they accrue, depend on the settings in which they work, the communities they serve and the students they

encounter. This is not an argument for local standards, but a recognition that general assertions about excellence in teaching must acknowledge the importance of context.

The assessment procedures developed by the National Board will, therefore, need to take context into account in a variety of ways. This may be accomplished by the use of assessment formats such as essays, interviews, simulations, and teaching under real or controlled conditions that would allow National Board examiners to account systematically for a range of contextual factors in candidates' responses, and to explore candidates' adaptability to different mixes of students and situations. The challenge of balancing the need for standardization against the influence of context is an issue the National Board must resolve in the development process ahead.

Encouraging professionalism in teaching will improve student learning. The National Board is, therefore, committed to making certification available to all qualified teachers irrespective of the teaching environments in which they work. But the opportunities available to teachers to acquire and exercise many of the professional capacities and responsibilities endorsed by the National Board will vary markedly from community to community. Some schools feature strong professional cultures whose norms support collaboration, innovative teaching, a high degree of collegiality and participation in a broad array of professional activities. Other schools provide few such opportunities, and some even discourage such activity. To reconcile this tension between current realities and emerging ideals, the National Board's assessments will, where appropriate, attempt to carve out multiple paths to meeting the certification standards that take into account the diversity of teaching environments.

These are the touchstones that will guide the development of the National Board's certification standards and assessment processes. As the National Board begins its program of research and development and seeks to reach decisions on its fundamental policies, this document will serve as an orienting point. Our view of the responsibilities of the Board-certified teacher as specified here is deliberately complex and demanding, for this is how we see the work of American professional teachers, challenged as they are to create a kind and quality of education never before attempted for all of our nation's youth.

# PREREQUISITES FOR NATIONAL BOARD CERTIFICATION

## Prerequisites for National Board Certification

The National Board for Professional Teaching Standards has established certain prerequisites for completing the assessment process. This chapter presents and explains the National Board's policy position on this aspect of National Board Certification, reviews the strengths and weaknesses of several options the National Board considered in reaching this decision, and suggests that this is a policy that may be refined over time.

Prerequisites serve symbolic and practical purposes. As symbols they help convey the meaning and significance of National Board Certification and thus contribute to the overall standard for the teaching profession. Moreover, they constitute a benchmark, an assertion that to be eligible to stand for National Board Certification, a candidate must possess certain qualifications. Prerequisites, then, help define National Board Certification for the profession and for the public.

As a practical matter, prerequisites constitute a restriction on eligibility. They guard against the presumption that all who claim to be teachers should have the opportunity to become National Board-certified. In imposing any one prerequisite, the operative questions must be: whom does this exclude, and on what grounds? And, conversely, what guarantee does it provide, and on what grounds?

### Rationale for Prerequisites

Prerequisites are part of a larger framework of standards the National Board will establish. They should be an efficient means for attesting that all Board-certified teachers possess certain qualifications that contribute to their competence. Prerequisites strengthen standards. They complement standardized assessments which, no matter how sophisticated and extensive, are inevitably limited in their ability to certify competence. The National Board seeks to assure that only fully accomplished teachers become certified, yet the practical means for gaining such assurances provide an imperfect warrant. Prerequisites can improve that warrant by requiring that candidates possess certain qualifications and/or have undertaken certain experiences. The argument is not that a candidate must satisfy the prerequisites in preparation for the assessments, but rather that prerequisites are integral to the framework of standards the National Board establishes.

Grounds for justifying prerequisites should be the same as for the assessments themselves: to contribute to teaching effectiveness; to reform and improve teaching; and to advance the teaching profession. Prerequisites should strengthen the process of ensuring that individual candidates for National Board Certification possess knowledge, skills and dispositions associated with effective teaching as defined by disciplined inquiry and professional judgment. They also have a collective function: representing commitments of the profession to improvement and to reform. Consequently, each of these grounds might justify particular prerequisites.

Prerequisites operate in part through perceptions. This is a significant point. Support for and the legitimacy of the National Board standard is at stake in these perceptions. The National Board may establish prerequisites on principled grounds, but if important constituencies perceive the prerequisites as invalid and unjustified—as barriers that artificially restrict access to certification—this can jeopardize the certification process.

There are twin dangers to avoid. One is that the framework of standards will be insufficiently rigorous, so that too many teachers of lesser accomplishment may

become certified. Such an outcome would surely undermine the National Board in the long run. Conversely, it would be equally damaging if, in the name of rigor, the standards framework excludes too many teachers widely perceived as excellent. The National Board has kept these dangers in mind in developing its policy on prerequisites.

### Criteria

In evaluating the range of potential prerequisites, the National Board posited four criteria:

- Eligibility for National Board Certification should be as open as possible without compromising essential properties of the standards.
- Any prerequisite adopted should be set in a non-arbitrary manner.
- Any prerequisite adopted should lend itself to being applied uniformly and fairly to all candidates.
- Prerequisites should be administratively feasible, lending themselves to straightforward verification.

Applying these considerations to the mix of plausible choices that recommended themselves for incorporation in the National Board's framework led the National Board to the following policy position.

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## POLICY POSITION

As a prerequisite for completing the assessment process for National Board Certification, a candidate shall have:

- Acquired, at least, a baccalaureate degree from an accredited institution.[1]
- Successfully completed three years of teaching at one or more elementary or secondary schools.

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## SUPPORTING STATEMENT

Both criteria will treat all candidates uniformly, as there is little ambiguity in demonstrating whether or not the prerequisite has been satisfied. In addition, place of employment does not provide any particular advantage or disadvantage in meeting these prerequisites—which cannot be said of other options considered.

The experience criterion can also be seen as a de facto state licensing prerequisite, for in the public sector and at a fair number of private institutions, one can not acquire such experience without some official sanction by the state. Similarly, the experience prerequisite also serves as a de facto education requirement, for, to the extent state licensing requires a particular education regimen and teachers have to be licensed to gain experience, requiring that teachers be experienced will, in most jurisdictions, mean requiring that they satisfy a state-approved education standard.

While the experience criterion modestly limits access, it does so at a time in a teacher's career when, almost by definition, his or her practice is at less than an accomplished level. It suggests that there is a period of apprenticeship, and that no matter how well a beginning teacher has been schooled or prepared, some time is needed for the development of mature practice.

The extent of the experience requirement is subject to debate, but three years is an

appealing period as it coincides with tenure decisions in many jurisdictions. To be sure, a few teachers may be capable of meeting the certification standard after a year or two of practice, and there is no empirical basis on which to claim that three years' experience is strongly associated with proficiency. But the National Board judges that most educators will regard this time period as, on average, a proper eligibility criterion.

Although the National Board has chosen not to require a teacher education degree as a condition of eligibility, this decision should not be misinterpreted as a signal that the National Board undervalues teacher education. Quite to the contrary, the fact is the goals and objectives of the nation's best teacher education programs are infused in the National Board's central policy statement, "What Teachers Should Know and Be Able To Do." In this statement the National Board has not taken a simple view that only subject matter is important. Rather, it has asserted that teachers must command knowledge of students, subject and pedagogy. In addition, their ability to accurately assess their students' needs and integrate knowledge of students, subject and pedagogy in the course of making sound professional judgments is crucial— as is the capacity to act effectively on such knowledge. It is, in fact, difficult to imagine a candidate successfully navigating the National Board's rigorous assessment processes without command of the knowledge and skills that exemplary teacher education programs seek to impart.

The National Board's core policy stands in sharp contrast to the narrow perspective of some critics who contend that there is little or nothing to know about the practice of teaching. The National Board, in fact, applauds the current efforts of teacher training institutions to strengthen their programs, and is committed to working with these institutions and other educational agencies to improve American education.

The National Board also recognizes that its dual eligibility standard will require some interpretation and rule-making. Possession of a baccalaureate degree is a requirement that calls for a rule on the accreditation status of degree-granting institutions. The experience requirement introduces several additional implementation issues, including where the experience was gained, and over what period of time. The National Board will need to define the acceptable range of institutions at which experience might be acquired (e.g., public and private preK-12 schools properly accredited by a public agency or private association), and establish guidelines for the accumulation of experience to include both full- and part-time teaching.

While some segments of the education community have expressed reservations about this policy due to the absence of an explicit state licensing requirement or an explicit professional education requirement or both, the net effect of the policy is that all public school teachers and some private school teachers will have to have received a state license and successfully completed an approved program of professional studies as a prerequisite for National Board Certification. A small percentage of private school teachers will not have to meet these requirements although some will choose to do so. The determining factor that will govern the extent to which state licensing and graduation from an accredited teacher education program are, in fact, prerequisites for a candidate for National Board Certification will be the state where the candidate practices. States that demand that all private school teachers be licensed will assure themselves that state licensing and successful completion of an approved program of professional studies are prerequisites for all candidates for

National Board Certification from their state. States that take a more permissive view regarding the licensing of private school teachers will not have the same assurance.

The National Board has adopted this policy at a time when there is substantial flux in state licensing practices, teacher accreditation and program approval standards and teacher education programs themselves. As initiatives to reform and strengthen these aspects of the teaching profession move forward, the National Board hopes to be able to play a constructive role in the community-wide conversations that are unfolding. In the long run the teaching profession and American education will be healthier institutions if a more integrated and rigorous system of standards, assessments and other quality control mechanisms can be fashioned.

## OPTIONS FOR PREREQUISITES

In the course of developing this policy the National Board considered four different types of prerequisites:

- ❑ Possession of a baccalaureate or advanced degree
- ❑ Graduation from an accredited program of teacher education
- ❑ Years of teaching experience
- ❑ Possession of a valid teaching license

These options could be applied independently or in various combinations. If the National Board's assessment has multiple segments that are not administered as a single event, different prerequisites could apply at different stages in the certification process.[2]

Each option exhibits various strengths and weaknesses. These are now discussed in light of the previous stated criteria.

### Baccalaureate or Advanced Degree

The National Board might set a minimal education prerequisite of a baccalaureate degree. This requirement would exclude few, if any, candidates. With rare exception, one can no longer teach in the United States without a college degree. The National Board might assert as an entitlement standard that all Board-certified teachers must be liberally educated, and that this requires, at minimum, a four-year course of study at an accredited college or university. Such a prerequisite would have broad legitimacy as it affirms the widespread view that teachers should be educated persons.

In some states (e.g., California, New York), an advanced degree is now required for permanent licensure. While a strong case exists that four years of college-level study does not provide sufficient time to encompass the breadth of coursework and the rich clinical experience that this profession demands, many excellent teachers are now practicing in the schools having attained no degree higher than a B.A.

If an advanced degree were warranted, the National Board would, in all likelihood, seek to establish criteria defining a sound program of professional preparation. Any advanced degree would not do. This would inevitably lead the National Board down the road of specifying an appropriate program of teacher preparation. At a time when there is great diversity of opinion in the teaching community about the most appropriate means to prepare teachers and substantial experimentation with new models that have many promising features, it would be presumptuous for the National Board to endorse a single approach. Such a course also would add to the cost of National Board Certification for the many teachers who had yet to attain an advanced degree.

Two possible choices emerge from these considerations. The National Board could avoid emphasizing such credentials and place

greater reliance on its own rigorous assessment processes. Alternatively, the National Board could adopt advanced preparation standards set by some other distinguished and trustworthy body upon which the National Board could depend. This leads to the next option.

### Graduation from an Accredited Program of Teacher Education

Because examinations alone are limited in their ability to gauge competence, most professions rely on program accreditation to complement examination-based standards. The combination of a rigorous assessment, an extended course of professional study, and a well-supervised clinical practicum provides the strongest warrant of competence. Such a requirement assures not only that certain studies have been completed, but that certificate holders have been socialized in college and university settings where there is extended time for interaction and reflection with peers and faculty on matters of professional practice, ethics and tradition. Similarly, engagement in professional training on a full-time basis enhances the character of study, the quality of inquiry and the commitment to scholarship of the entering novice.

In teaching, however, this option is both controversial and difficult to legitimize for at least two reasons. First, unlike other professions, teacher education programs vary widely in both quality and content. There is little in the way of "core" training that all students receive, nor a single entity that accredits all teacher education programs.

Secondly, it would exclude candidates who have not graduated from accredited teacher education programs, including those who have acquired advanced degrees in the arts and sciences. This would include some portion of public school teachers, a larger share of private school teachers and postsecondary faculty who might otherwise be eligible. There are indisputably many teachers who have achieved a high level of competence without benefit of a formal teaching degree. There are also many teachers who during the course of their careers have conducted themselves as professionals, seeking to hone their craft and expand their knowledge by taking university courses, attending summer seminars, or participating in peer study groups or workshops. To rule such persons permanently ineligible just because they have not graduated from an accredited program would not be fair. Moreover, requiring graduation from an accredited program also raises the issue of what constitutes "accreditation"—and whether a restrictive or permissive model of accreditation should be adopted.

The permissive version is <u>any</u> form of accreditation, including the "approved program" approach used in most states. However, there is almost as much variety among such state standards as there are states. The demands placed on candidates for National Board Certification would vary depending on where they completed their professional training, thereby violating the fairness criterion.

The restrictive version would designate a professional body such as the National Council for the Accreditation of Teacher Education (NCATE) as the agent for program standards. But this would limit certification to graduates of NCATE-approved institutions. Endorsement of the restrictive option would exclude large numbers of excellently trained teachers. If the National Board chose this option, it would also make it dependent on the practices of another body whose standards it could not control. Such a close linkage would leave the integrity of the National Board exposed to compromise whenever a flaw in the accreditation system was uncovered. Jeopardizing the National Board's credibility in this manner seems a risk hard-

ly worth taking for a fledgling enterprise attempting to establish its own legitimacy.

A third alterative would be for NBPTS to promulgate its own criteria for an acceptable program of teacher preparation. However, such a stance would be problematic, for there is no single formula that defines a high-quality program, and to advance such a formula would intrude on the province of other institutions that have responsibility for quality control in this arena. All these considerations aside, almost any education prerequisite runs up against the National Board's fundamental orientation toward performance rather than toward design standards and its orientation toward individual rather than institutional criteria. Graduation from an approved institution offers, at the moment, little or no warrant that an individual meets a high standard. Consequently, with the focus of the National Board on "what teachers should know and be able to do," and not on the means of acquiring such knowledge and skill, the case is weak for academic prerequisites beyond the attainment of a liberal arts and sciences degree.

### Years of Teaching Experience

A third option would require successful completion of several years of teaching as a prerequisite for eligibility. Defining what constitutes "success" might become a stumbling block, but by emphasizing the value of experience in acquiring competence in teaching, the National Board would be recognizing a well-accepted view that accomplished teaching only comes with practice and time. This is not the same as asserting that the more one teaches the better one gets, but only that several years of seasoning is a necessary, though not sufficient, condition for development of genuine proficiency and wisdom.

Such an option is not likely to be controversial even though it would exclude beginning teachers. Indeed, it would underscore the distinction between voluntary, professional certification and mandatory state licensing. The disadvantage is that novice teachers, however competent, could not gain immediate access to full professional status.[3]

There may be certain symbolic and practical disadvantages as well. Competence might be equated with the mere accumulation of years of teaching experience, implying that teaching is more craft than profession. But this charge does not hold in the face of the National Board's standards, grounded as they are in a knowledge base of subject matter, theory and pedagogy.

As a practical matter, the National Board might have difficulty in implementing criteria for guaranteeing that years of experience, in fact, amounted to "successful" teaching. It may be enough for eligibility purposes to rely on the continued employment of a teacher over some prescribed number of years, leaving judgments of teaching success to the assessment process itself.

### Possession of a Valid Teaching License

Simply accepting any state's licensure requirements would be an efficient means to set a minimal eligibility requirement with no implementation costs. This option would emphasize certification as an advanced status in teaching and establish entry-level requirements as a logical prerequisite to advanced standing. It respects the state's responsibility for setting minimal requirements for all teachers, while acknowledging the profession's role in setting advanced standards. It has the advantage of assuring that candidates have met some standard of education and, in almost all states, have passed an examination, however modest. The profession then would be seen as working in partnership with the states to create a staged framework of standards. However, these real advantages are offset by several liabilities.

Under this option, the National Board would have to define what constitutes a "valid" license. A permissive definition would be any license issued by a state whether permanent, provisional, temporary or otherwise limited. A restrictive definition would permit only permanent licenses. The former choice would confer legitimacy on a process that often promises only that an individual stands ready for clinical practice; ready to be an apprentice, not a highly accomplished professional. If a restrictive option were employed on professional grounds—to be eligible for certification, an individual must be a fully licensed professional—beginning teachers on provisional status would be excluded as would teachers entering through alternate route programs prior to their achieving permanent licensure. Also excluded would be teachers with emergency and other sub-standard credentials. While requiring a permanent license is in keeping with a commitment to professionalism, it raises difficult equity issues. In some states a permanent license is granted after one year of practice, while in others upwards of five years is required. This would mean that by virtue of locale some teachers could stand for National Board Certification after one year's experience, while others would have to wait until they had taught for five years—hardly an even-handed policy. State-by-state variability is not confined to these terms alone. Great diversity can also be found in the teacher education requirements prescribed by each state, in the rigor of testing practices and scoring criteria, and in the licensing rules and regulations for non-public school teachers. Demanding a permanent license would exclude non-licensed private school teachers and postsecondary faculty. Consequently, it limits the openness of the process.

Under either a permissive or restrictive approach the issue here appears to turn on the great diversity of licenses promulgated by the states. The National Board should not attempt to pick and choose among those it finds virtuous and those that are less so. One can imagine a scenario where the National Board found a temporary license sufficient in a state with very high standards but required a permanent license (which takes several years to acquire) in a state with low standards. Such a plausible eventuality would be a professional and political quagmire, to say nothing of the equity issues it would raise for teachers in the respective states.

**Additional Considerations**

The choice of prerequisites depends on a conception of the assessment process itself. If assessment consists solely of examinations, then an experience requirement is useful in establishing a candidate's competence on the job. However, if the assessment process includes assembling a portfolio of materials created on the job over time, and/or an attestation of consistent high-quality practice, then teaching experience is built into the assessment process and need not be separately established as a prerequisite. Alternatively, certification requirements might begin to be met during the course of teacher education with the assembling of evidence and materials. This approach would link certification to teacher education without requiring the National Board to endorse program accreditation. The National Board will continue to explore the extent to which it is feasible to integrate prerequisites with other elements of the standards framework as it begins the assessment development process. But for now it is not known what assessment methods will prove administratively feasible, professionally acceptable, publicly credible, legally defensible and economically viable.

**Summary**

The tidiest course for the National Board to have taken was to establish a completely open process with no prerequisites at all. All possibilities of invidious discrimination would be eliminated. All candidates would be treated equally. No artificial or flawed hurdles would be invoked. No one best or three best or seven best pathways to professionalism would be selected to receive the National Board's imprimatur. And, the National Board would remain true to its performance orientation; asking only, "Do you know and do what an accomplished teacher should know and be able to do?" not, "Have you properly prepared yourself to be an accomplished teacher?" However, this course would have placed all the National Board's cards on its assessments and may not advance professionalism as much as a course that incorporates one or more prerequisites. Consequently, the National Board has adopted a policy that, while it may not be perfect, given the current public policy landscape promises to best satisfy the National Board's fundamental objectives.

1. An institution recognized by the appropriate regional accrediting body.

2. An example of this is the Certified Public Accountant's (CPA) exam where some states permit candidates to sit for the theoretical sections as soon as they have met the state education requirement, and then require one to three years of experience prior to sitting for the clinical sections. Of course, the National Board's obligation is to design a system that makes sense for teaching, drawing what wisdom it can from the success and failures of those professions that have gone before it.

3. This would not preclude the National Board from encouraging teachers early in their career to engage in self-assessment so that any glaring weaknesses in their practice might be identified and attended to. As the National Board designs its assessment process it will also want to examine the viability of providing novice teachers with the opportunity to meet some segment of the standards. The objective would be to signal especially able young teachers that professional status is within their reach.

# NATIONAL BOARD CERTIFICATES

While there are knowledge and skills that all teachers hold in common, fundamental to the National Board's vision of teaching is that it is context-specific—teachers instruct particular students in particular skills or subject matter to achieve particular educational objectives. Based on Chapter II's statement of "What Teachers Should Know and Be Able to Do," this chapter presents design criteria for defining National Board Certificates, and draws out the implications of these factors for the certification fields to be developed by the National Board.

The National Board believes that a unitary certificate which suggests that its holder is proficient in teaching all subjects to all students of all ages is unwarranted. Instead, it proposes a framework for National Board certificates that accommodates the diverse nature of the American teaching force, the variety of responsibilities teachers have, and the mix of institutional settings in which they work.

To identify the fields in which certificates will be issued, the National Board has selected four criteria to be applied to two dimensions of teaching. The criteria are: support for the National Board's standards; fairness; complementing the existing educational structure; and parsimony. The two dimensions are: the characteristics of students taught; and the subject matter taught. This is described in the first part of this chapter.

The second part of the chapter presents the National Board's policy position on National Board certificates in terms of the standards articulated in Chapter II. A four-part classification scheme is used: core knowledge and skill; developmental-specific knowledge and skill; breadth of subject matter knowledge and pedagogy; and depth of subject matter knowledge and pedagogy.

The discussion that follows presents the National Board's thinking about a cluster of interconnected issues where there is no one right answer. This is the first step in a process that will have several iterations as the National Board continues to test these ideas with the education community and as its research and development program yields new information to assist the National Board's decision making. In the coming years, the National Board will periodically revisit this policy position as it moves toward offering its initial certificates in 1993.

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## DESIGN CRITERIA

In defining the fields where National Board certificates would be offered, the National Board employed four design criteria. The certificates must:

- ❑ Support the National Board's standards as expressed in "What Teachers Should Know and Be Able to Do."
- ❑ Assure fairness.
- ❑ Complement the structure of the education system.
- ❑ Emphasize parsimony.

### Support the National Board's Standards as Expressed in "What Teachers Should Know and Be Able to Do"

The framework for National Board certificates should support the knowledge, skills and dispositions embedded in the National Board's statement of what teachers should know and be able to do. That statement holds several key implications for the framework. It indicates:

- ❑ There is a common core of professional knowledge and skills applicable for all teachers.

- There is knowledge of human development and pedagogy that is distinctive to students at particular stages of development.
- There is knowledge of pedagogy that is subject-matter specific.
- There is a need for teachers to demonstrate depth of content knowledge as well as breadth.

**Assure Fairness**

In developing its certificates, the National Board should avoid discriminating against the chances of any single group of teachers acquiring certification. For example, a rural high school teacher who is responsible for math and science instruction should have the same opportunity for certification as a suburban high school science teacher who only teaches physics. The typical teacher is identified with a particular unit of schooling such as the elementary, middle or high school. Yet in many school systems certain teachers (e.g., art, music, physical education) work across these boundaries. The opportunity for certification for these teachers should take their broader roles into consideration. Through the design of its certificates and related assessment processes, the National Board seeks to treat all prospective candidates even-handedly.

**Complement the Structure of the Education System**

While the design of the certificates must complement the present structure of schooling, it should also be flexible enough to accommodate changes in that structure. Indeed, the National Board should consider using this framework whenever possible to encourage improvements that are emerging in state and local systems. For example, several school districts have adopted the promising practice of including subject matter specialists in mathematics and science in staffing their elementary schools. The framework should allow subject matter specialists as well as generalists at the elementary school level to obtain certification. And, if interdisciplinary activities at the secondary level are valued, the National Board might construct the assessment to stimulate their occurrence. Finally, many states and schools are implementing or thinking about implementing prekindergarten programs. Teachers in these programs should have an opportunity to obtain certification. The general proposition is that the boundary lines the National Board draws for its certificates not be restrictive; rather they must be supportive of the diversity and ingenuity that is characteristic and a strength of our local schools.

**Emphasize Parsimony**

A parsimonious certification system is desired because it will make National Board Certification available to all teachers sooner rather than later. It will also make the certification framework easier to describe and contribute to controlling costs. Consequently, the dimensions used to define the certificates should be limited and the number of categories in each dimension should be kept to as few as possible. Since the number of certificates required is a product of the number of categories in each dimension, adding dimensions and categories to the framework creates geometric growth in the number of different certificates to be developed. Over time, however, the system might become more sophisticated and complex.

## STRUCTURAL DIMENSIONS

The National Board's standards as articulated in "What Teachers Should Know and Be Able to Do" identify two dimensions of the teaching enterprise that are central to the design of National Board certificates: who is taught and what is taught.

### Who is Taught - The Student Dimension

The fundamental differences in roles among teachers of students in different grade levels are quite familiar. Teachers generally become more specialized with respect to subject matter as grade levels rise. The most common distinction is between elementary and secondary teachers. Distinctions between primary and upper elementary, elementary and middle, and middle and high school teachers are only slightly less obvious.

Less familiar to the lay public are the distinctions that can be drawn between teachers whose practice is focused on a particular stage of student development. However, accurately gauging the developmental factors associated with what students know and can do is crucial to effective teaching. As students develop and their knowledge, understandings, and skills change, the practice of accomplished teachers reflects this variability. While there is a close relationship between grade level and stages of student development, they are not synonymous. For example, students in the sixth grade are typically a mixture of youngsters in middle childhood and early adolescence, and students who developmentally are classified as "early childhood" can be found in pre-kindergarten classrooms through third-grade classrooms.

The four criteria for designing the certification fields offer guidance about decisions relating to this developmental dimension. The standards criterion suggests that there is different knowledge necessary for teachers of students at different stages of development and, therefore, distinctions based on such student attributes are necessary. The parsimony criterion suggests that as few distinctions as possible should be made. More specifically it implies that the number of categories along this dimension line be small (say five at the outside). The complementarity and fairness criteria suggest that the certification framework be flexible to accommodate the different school system structures that serve students at similar developmental levels. These criteria, taken together, point to the desirability of developing certification fields which overlap the teaching of students at various stages of development and grade levels. One certificate might be for early childhood teachers (students ages 3-8), with another for teachers whose practice is devoted to middle childhood students (ages 7-12). In this scheme, making distinctions for teachers of adolescents and young adults also would be plausible. Many candidates would then have a choice of certificates to consider and could request being examined in the field where they believe they are most proficient.

In addition to stage of development, students can be classified by locale, family circumstances and other variables. The key issue here is expectations for National Board-certified teachers: Are teachers able to work effectively with many different kinds of students or are they specialists, adept at working effectively only with "typical" or "gifted and talented" or "inner-city" or "handicapped" students? Chapter II, "What Teachers Should Know...," suggests the former. Were it otherwise and the National Board began making fine distinctions between types of students, it would have difficulty knowing where to stop. Moreover, the great diversity of students within American schools and classrooms makes it

mandatory that most teachers be able to work with a broad range of students.

This formulation suggests that a "type of student" dimension, other than developmental stage, not be a principal feature of the basic certification framework. This is not to say that rural students do not pose different challenges to teachers than do disadvantaged inner-city students or affluent suburban students, or that "homogeneous" classes, if any really exist, do not make different demands on teachers than do heterogeneous classes. Rather, the implication to be drawn from "What Teachers Should Know..." is that these contextual distinctions should be accounted for within the assessments themselves, either by examining candidates across a mix of different contexts, or with respect to their own particular circumstances, or both.

These considerations aside, there will be exceptions to this rule. For example, teachers of handicapped students who cannot be fully "mainstreamed" need specialized knowledge and skills that should not be required of most National Board-certified teachers. It would, therefore, be reasonable to develop special certificates for teachers of the handicapped that would include working collaboratively with other teachers in a "mainstreaming" environment. The same general argument would hold for developing a special certificate for teachers of students for whom English is a second language and one in which they are not yet proficient.

### What is Taught - The Subject Matter Dimension

Despite contradictions among the implications one might draw from the four design criteria, some general guidance emerges concerning how to define the subject matter disciplines for which the National Board will issue certificates. The subject matter areas must be as broad as possible in order to achieve parsimony and maximum impact. Yet at the same time, the assessment model must balance general knowledge of a subject matter area with the opportunity for the applicant to demonstrate depth of understanding, probably through a focus on a sub-field within the main subject matter domain.

While the parsimony criterion implies fewer rather than more distinctions among subjects (e.g., a science certificate would be offered for secondary school teachers rather than certificates in physics, chemistry, biology and earth science), in some instances the complementary criterion can cut the other way (e.g., one should not necessarily lump French teachers with Spanish and Latin teachers as "foreign language" teachers even though some teachers do teach more than one foreign language). The fairness criterion would indicate that teachers in less-populated disciplines (e.g., vocational agriculture) should not have their field merged into a more comprehensive umbrella designation (e.g., vocational education) in the name of parsimony. Indeed, while many secondary school teachers teach several of the sciences, and some teachers teach more than one foreign language, it is rarely the case that an industrial arts teacher will also instruct students in vocational agriculture or home economics. Avoiding fields that are amalgams of several areas of practice implies more distinct subject matter fields rather than less. Moreover, the National Board's statement, "What Teachers Should Know...," argues that a certified teacher should be able to demonstrate depth as well as breadth of knowledge of a content area, thus suggesting that specialty examinations may be necessary. Taking this approach, a high school science certificate might require a candidate to demonstrate in-depth knowledge of one of the subfields (e.g., biology) and how to teach it, in addition to demonstrating command of the breadth of science. In the case of English teachers, the in-depth requirement might focus on composition, poetry or American literature.

## CERTIFICATES FOR ALL TEACHERS

Blending the four criteria and the two dimensions and seeking to balance competing viewpoints and claims, the National Board has adopted a policy position on the framework of National Board certificates. The National Board will phase in its certificates with the first fields available to teachers in 1993, and the remaining fields brought on-line over the next several years. The first set of examinations should make National Board Certification available to a significant proportion of the current teaching force to build awareness and to engage the interest, participation and enthusiasm of as large a number of teachers as possible. But, irrespective of the decision about which certificates come on-line first and which second, the National Board, at the outset, needs to define a set of certificates that encompasses all teachers.

## POLICY POSITION

The National Board will structure its certificates and associated assessment processes guided by the following understandings:

- There is a core of professional knowledge that all National Board-certified teachers should command.
- There are knowledge, skills and methods particular to different stages of student development that National Board-certified teachers working with such students should command.
- There are subject- and discipline-specific knowledge, skills and methods that National Board-certified teachers should command. This includes a core of subject- and discipline-specific knowledge that all National Board-certified teachers in each subject area should command.
- Each certificate will be designed to require a demonstration of depth as well as breadth of knowledge.

This initial structure of NBPTS certificates may be modified as the result of consultations with the various disciplinary communities, the shape and organization of the knowledge base in particular fields and/or assessment considerations revealed during the course of the National Board's research and development program.

Taking into account each of the above understandings yields the following list of potential certification fields in which the National Board will focus its research and development activity:

Early Childhood (Ages 3-8)

Generalist

Middle Childhood (Ages 7-12)

Generalist
English Language Arts
Mathematics
Science
Social Studies/History

Early and Middle Childhood (Ages 3-12)

Art
Foreign Language - Spanish, French and others[2]
Guidance Counseling
Library/Media
Music
Physical Education/Health

Early Adolescence (Ages 11-15)

Generalist
English Language Arts
Mathematics
Science
Social Studies/History

Adolescence and Young Adulthood (Ages 14-18+)

English Language Arts
Mathematics
Science
Social Studies/History

Early Adolescence through Young Adulthood (Ages 11 - 18+)[3]

Art
Foreign Language - Spanish, French and others[2]
Guidance Counseling
Library/Media
Music
Physical Education/Health
Vocational Education - Agriculture, Business, Health Occupations, Home Economics, and Industry/Technology

For teachers of special needs students—Limited English Proficient Students (e.g., English as a Second Language, bilingual education) and Special Education and Exceptional Needs Students (e.g., moderately handicapped, severely and profoundly handicapped, speech impaired, hard of hearing and deaf, visually handicapped, deaf and blind, and gifted and talented)—the National Board will develop assessments for teaching practice specialties to be added as a third dimension to the certification fields described above.

## SUPPORTING STATEMENT

There are three interrelated components that define National Board certificates. The first is the structure of the certification standards themselves—broad categories of knowledge, skills and dispositions drawn from "What Teachers Should Know and Be Able To Do." The second is the developmental stages that characterize elementary and secondary school students. The third component involves the categorization of subject matter and discipline areas—the content areas that will define the certificates the National Board will offer.

### The Structure of the Certification Standards

Each certificate will be structured so as to reflect four central strands of teacher knowledge and proficiency that are woven into the fabric of the National Board's expectations for "What Teachers Should Know...." Inherent in that document is the understanding that there are core professional knowledge and skills that all teachers should possess regardless of whom they teach or what they teach. In addition, the National Board's standards, as articulated in Chapter II, expect that teachers will have knowledge and skill that is specific to the developmental stages of the children they instruct. The standards will require teachers to demonstrate breadth of knowledge regarding the content and disciplines that they are expected to teach, depth of knowledge in their discipline, and skill in conveying that knowledge to their students. These four strands are briefly defined here:

### Core Professional Knowledge

This would include material on cognitive, psycho-social and physical development, cultural and linguistic diversity, exceptional children, classroom management, and the history and structure of schooling in U.S. society.

### Developmental Specific Knowledge

This would not only include in-depth knowledge of child and human development particular to the developmental level of the students a Board-certified teacher instructs, but also would require the application of that knowledge to instructional settings. Board-certified teachers would demonstrate understanding of the implications of developmental and cognitive psychology for teaching students at particular levels of accomplishment and maturity.

### Breadth of Content and Discipline Area Knowledge

This would include material that demonstrates the broad understanding and appreciation of the subject matter and related pedagogical expertise that is essential for accomplished teaching in each field.

### Depth of Content and Discipline Area Knowledge

This would be a subset of the main certification field, possibly selected by the candidate, to demonstrate in-depth content knowledge and related pedagogical competence.

While these strands have been isolated for purposes of defining National Board certificates, they may be joined together in the course of an assessment. For example, an assessment exercise involving correction of homework assignments might be used to determine teacher knowledge of the discipline and its distinctive pedagogy, the appropriateness of the assignment given the developmental level of the students, their ability to assess student performance and the quality of their professional judgment. The precise format the National Board will employ to assess teachers along each of these strands must await the outcome of the Board's research and development program.

Every candidate would be examined on the first strand, Core Professional Knowledge. The remainder of this supporting statement is devoted to explaining how the other three strands interact to define the boundary lines of each of the National Board's certificates. The discussion is organized first by developmental level, beginning with Early Childhood. Within each level the other aspects of the framework, breadth and depth of content and disciplinary knowledge, are then introduced.

### The Developmental Levels of National Board Certificates

Teachers can choose to be certified to instruct children in the following developmental categories and clusters:

- Early Childhood (Ages 3-8);
- Middle Childhood (Ages 7-12);
- Early and Middle Childhood (Ages 3-12);
- Early Adolescence (Ages 11-15);
- Adolescence and Young Adulthood (Ages 14-18+);
- Early Adolescence through Young Adulthood (Ages 11-18+).

This developmental model emerged from the National Board's consideration of the design criteria on the one hand and the knowledge base concerning human development on the other. Design factors included the general admonition to establish as few categories as possible, to provide overlap in the categories, to make certification accessible to all teachers, and to fit the assessment scheme to the general structure of the educational system, yet allow flexibility within the existing system and some choice for teachers. The National Board also believed it important to adopt an inclusive view of early childhood education and recognize that it encompasses the prekindergarten years.

### The Marriage of the Subject Matter Structure and the Developmental Categories

Within each of the National Board's developmental categories, National Board certificates must accommodate both knowledge and skill requirements.

#### Early Childhood (Ages 3-8)

These teachers will need specific understandings of the accomplishments, needs, interests, potential, and physical, social and intellectual development of young children. The inclusion of prekindergarten children extends this knowledge base downward beyond that typically required of elementary school teachers. Thus, there may be a greater emphasis on the integration of social and cognitive skill development in this assessment than there might be in the Adolescence and Young Adulthood assessment.With respect to the "Breadth of Content and Discipline Area Knowledge" strand, a primary assumption made by the National Board about Early Childhood teachers is that they should be competent to meet the needs of students throughout this age range. At levels appropriate for such students, they might be asked to demonstrate "competence" in teaching prereading, reading and other language arts, mathematics, science and social studies, as well as art, music, physical education and other areas typically required of generalists working with 3-8-year-olds.

While according to the breadth requirement, all teachers would be expected to demonstrate competence in both the substance and pedagogy of the relevant content areas, in addressing the depth component candidates would be expected to demonstrate comprehensive understanding and competence in a subset of the larger content area. The range of sub-content areas that might be available for such a demonstration is as large as the curriculum of the early schooling years.

Cost considerations alone, however, will make it impossible in the first years of National Board operations to prepare assessments of all subcontent areas. For its initial offerings to Early Childhood teachers the National Board might develop in-depth assessments in the areas of language arts and mathematics. Alternatively, the in-depth components might be oriented along a learning foundations perspective.[4]

#### Middle Childhood (Ages 7-12)

The Early Childhood standards would focus on the special issues of preschool and the primary grades, while the Middle Childhood standards would recognize the fact that during this developmental span students make a transition to a more formal academic environment. Because of the overlap in developmental stages, primary grade teachers would have a choice of certificates.

The developmental strand of this certificate would cover the applicant's understanding of developmental and institutional issues

common to pre-adolescent elementary school children. Because some teachers who instruct students at this developmental level specialize while others do not, the National Board has created two options regarding demonstration of breadth and depth of subject matter knowledge and skill.

*Option I - Generalist* To accommodate Middle Childhood teachers who do not specialize, "Breadth of Knowledge" would focus on the knowledge and pedagogical competence of teachers in the wide range of content areas typically covered in elementary schools.

Teachers seeking this certificate might have a choice in how they demonstrate depth of knowledge. In the first years of operations the National Board would give priority to developing in-depth assessments in language arts, mathematics, science and social studies/history. Candidates could select among these options to meet the "depth" requirement.

*Option 2 - Specialist* To meet the needs of teachers who specialize in a particular subject area, a second approach will be developed. This option would not require across-the-board knowledge and pedagogical competence in a variety of subject-matter areas. Instead, demonstration of breadth might focus on a single subject matter area and related knowledge. Because the teachers who select this option will receive a certificate as a subject matter specialist, the requirements for meeting these standards will be more comprehensive in the chosen discipline area than they are for Middle Childhood teachers who practice as Generalists. To recognize the interdisciplinary nature of knowledge, teachers who elect this option would also be required as a demonstration of "Breadth of Knowledge" to show proficiency in related disciplinary fields. Thus, for example, the standards for science teachers at this level might presumably demand some knowledge of and ability to teach mathematics. In the first years of National Board operations, priority would be given to developing Board certificates at this level for science, social studies/history, mathematics and English language arts.

The in-depth component in this second option would be directed toward the more comprehensive understanding of subject matter and content-specific pedagogy the specialist should possess. This is different from the in-depth component in Option 1, for it is reasonable to expect more depth of understanding of mathematics from a mathematics specialist working with Middle Childhood students than from a teacher who has responsibility for teaching five different subjects. A specialist in mathematics might be assessed in teaching whole numbers, fractions, or probability. Similarly, a social studies/history specialist might be examined in geography or American history. During the first years of National Board examinations a limited number of areas within each of the four main subject matter areas would be available.

## Early Adolescence (Ages 11-15)

At this developmental level, subject matter is qualitatively different from that taught to younger students. Hence, the expectations for teachers are different. In addition, there is greater specialization of teachers. In many larger middle schools most teachers have responsibility for only one or two subject matter areas. Last, but not least, children become adolescents.

The developmental component of the Early Adolescence standards would include understanding of pre-adolescent and adolescent cognitive and emotional development and of middle school institutional and organizational issues. This component is straight-

forward. For breadth and depth of subject matter knowledge and skills, the same choices as were outlined previously for Middle Childhood teachers would apply.

One consideration here and at the Adolescence and Young Adulthood (ages 14-18+) level is that many teachers are assigned courses that are more specialized than simply middle or high school "science," "mathematics," or "history." Their entire load may be respectively in biology, algebra, or world history. Should these teachers be expected to be generally responsible for knowledge of the overall discipline area? The National Board's response to this question is an emphatic yes! The primary reason is substantive; the National Board views the subject matter subfields within disciplines as sufficiently intertwined to require a Board-certified specialist teacher to possess and demonstrate a breadth of understanding of the content and the interrelationships among the sub-fields. Thus, a competent, certified biology teacher should command a considerable understanding of chemistry and physics.

In the in-depth part of the Early Adolescence assessment, the science or history or mathematics teacher would be expected to demonstrate special competence. Specialty assessments would be available in the major sub-discipline areas for all of the core discipline assessments specified in the breadth component. In addition, teachers standing for these certificates would be asked to demonstrate their capacity to teach a wide variety of students and courses within their chosen specialty. This is similar to the Option 2 - Speclist under the Middle Childhood assessment.

**Adolescence and Young Adulthood (Ages 14-18+)**

By the secondary school years, disciplinary specialization is the norm. Thus, the certification structure for this developmental cluster would be confined to specialists. The difference between the standards for Middle Childhood and Early Adolescence teachers and the standards for Adolescence and Young Adulthood teachers would be found in both content and pedagogy—where the orientation of the standards would shift toward older students and more advanced material.

The developmental component of the Adolescence and Young Adulthood certificate would focus on knowledge of the intellectual and social development of such students and the organization and sociology of junior and senior high schools. In the breadth component, candidates would be expected to have command of the subject matter and the content-specific pedagogy of their particular specialty, as well as content from related subject matter areas. During the first years of National Board operations, the priority for teachers of adolescents and young adults would be to develop certificates in the four primary academic areas (mathematics, English, science and social studies/history). In future years other areas might be added.

**Early and Middle Childhood (Ages 3-12) and Early Adolescence through Young Adulthood (Ages 11-18+)**

These categories recognize that some teachers practice across developmental levels. Consequently, the National Board has designed several certificates to bridge the first two developmental levels and others to bridge the third and fourth developmental levels. In the initial years of National Board operations, this would include teachers who specialize in art, a foreign language, guidance counseling, library/media, music, and physical education/health. Certificates in vocational education would also be established at the Early Adolescence through Young Adulthood level. With respect to the range of instructional situations to be assessed, by definition

it would be greater than what would be expected at a single developmental level. But, like the other National Board certificates, breadth of knowledge here would include material from related content areas.

The demonstration of in-depth knowledge would focus on the specialty area of the teacher. In the early years of the National Board, the variety of possible in-depth assessments will necessarily be limited. A critical decision that the National Board will have to reach with regard to this requirement for all teachers will be whether to offer candidates the same options each year to demonstrate in-depth competence or to vary the choices.

## NEXT STEPS

The adoption by the National Board of this basic framework will provide guidance and general direction to the research and development program, but it marks the conclusion of only the first stage of decision making regarding these issues. Several additional steps are called for prior to the National Board reaching final decisions on the parameters of each certificate and on the order of development for the full complement of certificates the National Board seeks to bring on-line during its first years of operation.

The National Board will make these decisions only after several activities designed to inform the National Board's policy-making process are concluded. These include:

- More extensive consultations with the pertinent disciplinary, subject matter and student-centered associations;
- Evaluation of the knowledge base in each field. The more fully developed the field, the quicker it can be brought on-line;
- Research on the most promising alternatives for assessing breadth and depth of knowledge with respect to reliability, validity and efficiency.

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1. These understandings are meant to supplement, not supplant, the prior policy statement on "What Teachers Should Know and Be Able to Do."

2. As resources allow, additional certificates would be brought on-line in German, Latin, Italian, Russian, and Japanese.

3. Special education student certificates and limited English proficient student certifications are exceptions to this structure.

4. The development of examinations for in-depth components of the certification system might borrow an idea from the National Council of Architectural Registration Boards which includes an extensive design problem as part of their assessment each year. What is particularly relevant for the National Board is that the nature of this problem changes each year and is announced in advance to all prospective candidates. For teachers, the National Board might choose to announce in advance each year that the "depth" segment of a particular certificate, say Early Childhood, will focus on one of three possible subjects, each of which is clearly defined. Such a strategy would permit the National Board to be true to its values (that if deep and rich understandings of certain subjects are to be wished for students, they must be required for teachers) and yet not create a requirement that is beyond the reach of the accomplished teachers the National Board seeks to recognize.

# PRINCIPLES TO GUIDE THE DEVELOPMENT OF ASSESSMENTS

## Principles to Guide the Development of Assessments

The National Board's vision of what teachers should know and be able to do described in Chapter II is the foundation for initiating a research and development program to create the National Board for Professional Teaching Standards' assessment system. Translation of that vision into standards in each field where the National Board will offer certification will provide the substantive framework for creating the assessments. In this chapter, the National Board presents a set of principles to guide the research and development effort necessary to launch the state-of-the-art assessment system that the National Board desires, and defines the objectives, form and operation of the assessments so that development work can properly reflect its thinking.

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### POLICY POSITION

The National Board desires an assessment that will communicate to the teaching profession and the public a vision of teaching as a collegial enterprise involving complex decision-making. The assessment must be professionally credible, publicly acceptable, legally defensible, administratively feasible and economically affordable. To achieve these ends, the National Board wishes to make the following policies explicit concerning the assessment development process:

- The National Board expects the assessment to measure those characteristics of what teachers should know and be able to do that contribute significantly to student learning.
- The National Board expects the assessment procedures to have a profound impact on the teacher's role in education, on student learning and on the public's perception of teaching and learning.
- The National Board expects experienced teachers in all areas of elementary and secondary education to have the opportunity to earn certificates.
- The National Board expects the assessment to consist of a variety of methods, including some that may require assessment centers and others that might involve assessment of on-site performance.
- The National Board expects developers to explore and, where appropriate, use state-of-the-art technology for assessment.
- The National Board expects the assessment to be both affordable and accessible to all experienced teachers.
- The National Board expects there will be minority involvement in all stages of the development process.
- The National Board expects that professional associations involved with subject matter disciplines, designated categories of students and specific educational activities will be active participants in the development process.
- The National Board expects to work in partnership with appropriate state agencies, academic institutions and independent research and education organizations in the development of the assessment.
- The National Board expects that procedures to detect and eliminate instances of external and internal bias with respect to age, gender, racial and ethnic background of teacher candidates will be incorporated in the development process.

- Given the choice between two equally valid assessments, the National Board expects that the method exhibiting the least adverse impact is to be preferred.

- The National Board expects the assessment process to provide a body of information that assists teachers in preparing for the assessment, as well as to provide constructive feedback, especially for those candidates who do not at first meet the National Board's standards.

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**SUPPORTING STATEMENT**

The National Board has made preliminary assumptions about the assessments and likely operating procedures to guide the research and development work. This section describes the National Board's assumptions about the content of the assessments, the teachers who will be assessed, the particular methods that might be employed and the criteria for selecting the methodologies and technologies to be used in the assessments.

**What Will be Assessed?**

The most critical guidance for research and development is Chapter II, "What Teachers Should Know and Be Able to Do," a statement of values and principles embodying the National Board's conception of teaching. The research and development effort must provide information to the National Board to aid its decisions about which methods of assessment will best suit each of the standards, and which standards are subject to valid and reliable assessment.

In order to meet these specifications, the research and development activities will be designed to produce assessments characterized by the following properties:

- The National Board expects the assessment to measure those characteristics of what teachers should know and be able to do that contribute significantly to student learning.

- Although the assessment may not sample all areas important to accomplished teaching, the National Board expects that a representative array of the skills, knowledge and dispositions will be sampled.

- The National Board expects the assessment tasks to be at a level of difficulty that an accomplished teacher could be expected to perform successfully—that is, to be "in range" for effective teachers. Yet the level of difficulty should reflect the complexity of knowledge and skill required in accomplished teaching, so that a person inexperienced in teaching or not regarded as proficient would find the tasks difficult.

- The reports to candidates on their performance will contain constructive feedback, especially for those candidates who do not at first meet the National Board's standards.

**Who Will be Assessed?**

Unlike state licensure, National Board Certification is aimed at experienced teachers. The National Board makes the following assumptions concerning candidates for the assessments:

- Teacher candidates will vary in the amount of experience that they have, but all will have at least some teaching experience.

- The teacher candidates will come from all across the nation.

- Certificates for teachers in all areas of elementary and secondary education will eventually be developed. But a subset of the full array of possible teaching certificates will be selected for initial development.

A variety of decision rules will guide National Board policy regarding initial areas of certification. They might include a preference for selecting those areas that affect the largest portion of the teacher work force and the largest number of students. Other rationales might be to choose those areas of American education with the greatest need for improved student performance, or to select those teaching areas where the knowledge base necessary for assessment development is strongest.

**What Methods Will be Used for the Assessments?**

The National Board has examined a wide range of assessment methodologies and weighed their strengths and weaknesses. In particular, it considered:

- Multiple-choice (objective measures using paper and pencil or computer formats);

- Essays;

- Interviews (answers to questions in oral form);

- Simulated contexts with questions in the form of multiple choice, essays, or interviews (e.g., a sample lesson plan with questions; an instructional dilemma with questions about the decisions the candidate would make);

- Simulated performances (e.g., performing actual functions of teaching practice such as evaluating homework, conducting simulated parent conferences, planning a lesson, teaching a class in a simulated setting while being observed by a trained evaluator);

- Documentation—portfolios or other evidence of performance prepared by the candidate;

- Limited observations—observations of performance by trained examiners in the teacher's regular workplace;

- Regular on-site observations—periodic observations in the candidates' school by individuals able to make frequent, nonintrusive contacts with the candidate over a substantial period of time.

Among these diverse options, there is no single ideal methodology. Each option has definite advantages and disadvantages. Therefore:

- The National Board expects to consider a variety of assessment approaches and to include several such approaches in its final procedures.

- The National Board expects that assessment centers will be required for administration of some parts of the assessment.

- The National Board is particularly interested in directing research and development attention to those methodologies that have the potential to assess a teacher's capacity to integrate knowledge from several sources and make sound decisions—attributes of accomplished teaching that are at the heart of professionalism.

- The National Board assumes that some aspects of subject matter and generic pedagogical knowledge may be suitably assessed through essay or multiple choice methods, but standards involving the actual practice of teaching and the exercise of professional judgment will likely require methods such as simulation, observation or documentation.

**What Will be the Criteria for Selecting a Particular Methodology?**

The National Board believes that three criteria should be used to select assessment methodologies and technologies to be explored during the research and development process. These criteria are:

- Validity—the extent to which the assessment procedures measure the standard and do so in a reliable manner;

- Efficiency—the costs, in terms of dollars and time, of the assessment in relation to the amount and quality of the information derived;

- Impact—the effect of the assessment procedure on strengthening teaching practice in the nation; on the organization of schools and the role of the teachers; on the overall quality and composition of the teaching force; and on the public's view of education and teaching.

While it is possible to employ several different methods to assess a particular teaching standard, it is likely that these three evaluation criteria will not all point to the same policy decision regarding assessment methodologies. For example, employing simulations to measure the standard that "teachers must have a deep understanding of the subjects they teach" may rank high on the validity and impact criteria but lower on the efficiency criterion, whereas a multiple-choice measure for this standard would probably rank high on efficiency but lower on an impact criterion.

While most of the assessment options could validly measure standards of "knowing about," it is more difficult to find valid methods for assessing performance standards such as demonstrating how to transform knowledge into sound judgments and action. Simulations and direct observation assessment methods are potentially stronger on the validity criterion than are essays, interviews or paper-and-pencil methods for measuring performance.

If the efficiency criterion, defined simply as the time required for administration and scoring and/or the cost of administration, were applied for the purpose of identifying promising options, the desirable method would not vary as a function of the target standard, but rather as a function of the assessment methodology. The multiple-choice, essay and "recommendations by others" options would be among the more efficient methods and the "limited observations by external observers" would likely be among the least efficient. Interviews, simulations, and "observations in routine contexts" would likely remain in the middle in terms of efficiency.

If the impact criterion, defined in terms of the public's appreciation of the distinctive intellectual and behavioral challenges of teaching, is used for policy decisions, then assessment procedures more complex than the multiple-choice option would likely be needed.

In sum, in examining the various methods and considering them for incorporation into the operations of the National Board, the following principles will be observed:

- The assessments must be legally defensible.

- The assessment tasks should be developed with particular attention to issues of content, predictive and construct validity.

- The assessment development process must incorporate procedures to detect and eliminate instances of internal and external bias with respect to the performance of candidates of different ages, genders and linguistic, racial and ethnic backgrounds.

- The assessment development process must carefully weigh the prospect that the options under consideration might have an adverse impact on candidates of different ages, genders and linguistic, racial and ethnic backgrounds. A set of investigations should be undertaken to determine which type of assessment procedures are likely to mitigate either adverse impact, bias, or both with respect to minority performance. Given the choice between two equally valid assessments, the National Board expects that the method exhibiting the least adverse impact is to be preferred.

- The assessments should be publicly credible. They should clearly represent the complexity of the teaching enterprise.

- Minority teachers and scholars, including leaders of minority teacher training institutions, should be intimately involved in all stages of the development process.

- The National Board expects that leaders from the various subject-area and student-centered professional associations will be active participants in the development of the assessment objectives, exercises and scoring procedures.

- The National Board anticipates that leaders from state departments of education, academic institutions, and other professional and educational organizations will cooperate in the development and field testing of assessment exercises and scoring procedures.

- The assessments should be administratively feasible, based upon processing at least 75,000 candidates per year when the National Board is in full operation.

- The assessment costs must be affordable for teacher candidates.

# EDUCATION POLICY AND REFORM PRIORITIES

# Education Policy and Reform Priorities

Education policy in the United States has constitutionally and historically been a state responsibility, a local function, and a federal concern. The National Board for Professional Teaching Standards endorses this prevailing tradition and offers, as a means of strengthening existing education policy, the opportunity for teachers to voluntarily seek National Board Certification.

At the heart of the National Board's mission is a commitment to enhance student learning by strengthening the teaching profession. Schools today need to provide more effective education for children and a more professional setting for teachers. The National Board's vision of schooling, professionalism and equity can contribute to the larger effort to improve schooling.

The National Board does not operate in a vacuum, but within a well-established set of public and private institutions. Its future success will rest first on the trust and respect accorded its standards and assessment practices within the education community and by the public. But success is also contingent on the quality of professional life offered teachers, on the quality of professional education available to current and prospective teachers, and on the quality of people in this field.

Since the flood of education reports in 1983 that launched the current effort to improve schools, there has been a lively and fertile mix of reform activities. Within their different spheres of responsibility, virtually every group in the education community has begun some reforms—school boards, state boards, the teacher unions, administrators, schools of education, governors, state legislatures and others. Many state and local elected officials have become strong advocates for education reform, offering legislative and policy initiatives, garnering financial backing and stimulating public support for change. Private individuals and institutions, troubled by the state of the nation's schools and concerned about their students' future, have both led and joined reform efforts. These reform efforts generally tackled the easy changes first—such as increasing course requirements and instituting basic skills licensing examinations. Now they are starting down the long road to the more difficult changes, such as the improvement of teacher education, creating multiple paths to enter teaching and the redesign of schools.

In pursuit of its goals, the National Board has a keen interest in how the teacher policy debate progresses, for it will affect how teaching careers are defined, the pool of applicants for National Board Certification, and the health of the profession. The National Board will work in concert with others, especially with those engaged in issues of teacher education, the reform of instruction in schools, and the recruitment and retention of teachers. Like the outstanding teaching the National Board wishes to foster, the National Board can adopt many roles—leader, coach, loyal supporter, collaborator—as the issues and situation dictate. This chapter describes some of the ways the National Board will work with the education community to advance educational reform.

## POLICY POSITION

The National Board has chosen three reform issues related to the improvement of teaching and student learning that will be the major focus of its education policy and reform initiatives over the next five years. These issues were chosen because the National Board's work depends on, and can most fruitfully contribute to, progress in these areas. At the same time, new developments in these areas can enrich the National Board's work as it defines high and rigorous teaching standards and creates a national, voluntary assessment system.

The three reform issues are:

- Creating a more effective environment for teaching and learning in schools.
- Increasing the supply of high-quality entrants into the profession, with special emphasis on minorities.
- Improving teacher education and continuing professional development.

The National Board will seek opportunities to join others with a strong commitment to these issues. Through analysis, discussion and collaboration, the National Board will work at these three issues that enhance and support the National Board's goals and mission.

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## SUPPORTING STATEMENT

### Creating a More Effective Environment for Teaching and Learning in Schools

There is general agreement that the way most schools are organized is inefficient. Problems abound in the distribution of resources and responsibilities, the allocation of time for both teacher and student, the isolation of teachers from colleagues, and the limited view of what constitutes teaching and learning that shapes the life of most classrooms. The daily circumstances for most teachers do not remotely resemble an adequate professional working environment. These structural difficulties serve as a barrier to attracting and holding talented teachers and, more importantly, as a brake on both student and teacher learning.

While there is no "one best system" that will work in every school, we are learning about a variety of ways to elicit the best from students and teachers through the creation of more productive workplaces. These environments support high standards of professional teaching practice and take good advantage of the knowledge, skill and experience that accomplished teachers bring to their schools. The National Board has an interest in helping all schools establish them.

National Board Certification will be voluntary. Uniform standards will be tough, but attainable. Preparing for certification will require an expenditure of funds, time and energy on the part of teachers. But they will be less likely to take up this challenge if, once certified, they must return to a conventional school setting and philosophy that does not respect their talents and make maximum use of them. **The National Board will, therefore, outline general characteristics and principles of a professional teaching workplace, promote discussion of how to create such settings and identify exemplary schools that illustrate progress in this area.** Thus, the National Board can reinforce current state and local initiatives on school restructuring, help sustain the momentum of these efforts and challenge the status quo.

One mark of a professional workplace is an accountability system that focuses the attention of the entire school on improved student learning and performance. However, most techniques that have been developed in the past to hold teachers accountable for student progress have been found wanting, and generally are not compatible with the National Board's vision of teaching presented in Chapter II. State and local policy makers should recognize that when greater responsibility is granted to teachers, it should be accompanied by new accountability measures that are broader in scope and of greater sophistication than the simple pre/post-test measures of basic skills that are typically employed. This issue, along with many others, will undoubtedly become part of an ongoing dialogue about education policy and the emerging role of Board-certified teachers.

Similarly, it is important that the National Board keep abreast of new developments in instructional theory and school organization as it sets its standards and designs its assessments. The National Board can play a constructive role in stimulating change, at the same time as it grounds its standards and assessments in the reality of today's schools. To these ends, the National Board will:

- Ensure that its standards incorporate a richer vision of teachers' roles in the schools than is now common. Because the National Board's vision of what teachers should know and be able to do includes the capacity to work effectively with other adults (e.g., parents, teachers and administrators), to arrange diverse instructional experiences for students, and continually to refine one's practice, the National Board will highlight the need to create more supportive working environments for teachers;

- Generate a set of principles that characterize the institutional features of schools that support vibrant learning environments for students, high standards of professional teaching practice, continuing professional development of teachers, and the full and constructive engagement of parents in their children's education;

- Develop a variety of strategies for presenting the National Board's perspective on this issue to the larger education policy community, through NBPTS forums and other vehicles;

- Consider ways to celebrate and honor those who have succeeded in establishing "Teaching and Learning Environments of Distinction." By doing so, the National Board can help demonstrate that appropriate organizational change is attainable and that there are many different roads to professional excellence.

**Increasing the Supply of High-Quality Entrants into the Profession, with Special Emphasis on Minorities**

The recognition that our schools require very able people working as teachers is at the core of the rationale for this National Board. Meeting this requirement has been problematic for the schools, as the nation's strongest college graduates have, on average, been drawn to other fields that offer better pay, more responsibility, higher status, genuine recognition for superior performance and a professional working environment. While the last few years have brought several new developments designed to right this imbalance, the schools have a long history to overcome and external events now promise to aggravate an already difficult situation.

The demand for teachers is now on the upswing at a time when the number of young people entering the labor market is declining. Therefore, the competition for able young adults will intensify. The traditional "captive" pool of minorities and women, to whom the schools have historically turned in times of shortage, now has a much broader array of career opportunities from which to choose. All of this occurs at a time when the requirements for student learning are on the rise, serious shortages of teachers in certain fields (e.g., science, foreign language) are evident, and the presence of a high-quality teaching force in all fields has never been more urgent. While transforming the professional and institutional environments in which teachers practice probably holds the greatest promise for addressing this problem, new approaches to recruiting and to expanding the pool of able individuals across the country also deserve the National Board's encouragement.

Complicating this basic problem is the gradual disappearance of minority teachers from the classroom just as the number of minority students is sharply increasing. For some time, the proportion of the nation's teachers who are members of minority groups has lagged behind the proportion of minority students in schools. This situation, which proscribes the schooling experience for both minority and majority students and sends negative signals to each, is rapidly worsening. The shortage of minority teachers is problematic not only because of the equity questions it raises, but also because there is solid evidence of the positive influence that minority teachers bring to the classroom for all students, whether the concern is learning, attitudes or ethics. The presence of minority teachers also enhances the discourse among school faculty as more diverse perspectives are brought to instructional decisions.

Plausible explanations for this problem are readily available. It is in large part an educational "pipeline" problem. All along the educational route, minority candidates leak out of the system. The result is a woefully small pool of minorities with bachelor's degrees and even fewer with state teacher licenses.

More research is not needed; action is. Building a better understanding of which policies work best, highlighting innovative state and local efforts to tackle this issue, and stimulating leadership to act are what is needed. Educational institutions at all levels can contribute to alleviating the shortage. Teachers can play a special role by encouraging minority students to consider teaching as a career. **Accordingly, the National Board will commit itself to collaborating with others on a set of strategically well-placed activities designed to promote positive action in this arena.**

The National Board's interest in minority teacher recruitment is self-evident. With a commitment to improving student learning at the heart of the National Board's mission, it wants to ensure that minority teachers are well represented in the ranks of Board-certified teachers. While there is evidence that well-prepared minority teachers will demonstrate competence on any fair assessment, there is also a history of below-average performance by minorities on standardized tests and many well-documented cases of test bias. While differential performance by any one group does not constitute a prima facie case of test bias, the National Board must ensure that its assessments are fair and unbiased. Anticipating the concern among minority teachers that might accompany any new examination, **the National Board will work to see that such teachers are well informed about the National Board's expectations and processes, about how best to prepare for certification and about the steps the National Board has taken and will continue to take to address issues of test bias and adverse impact.** The objective here is to ensure that no teacher declines to seek National Board Certification out of a concern that the assessment process is unfair. This suggests several lines of activity for the National Board:

- As the National Board sets its standards and develops its assessment procedures, it will take a variety of actions to ensure that the National Board is part of the solution and not part of the problem in attracting able people to teaching. This must include actively involving minority teachers and scholars in all phases of the National Board's work and paying careful attention to the issue of cultural and ethnic bias in assessments.

- To broaden and strengthen the pool of minority candidates, the National Board will develop close working relationships

with historically Black colleges and universities and other institutions that enroll large numbers of minority students as these institutions attempt to get their students and graduates ready for National Board Certification.

The National Board will also:

- Support sound federal and state legislation that encourages highly qualified people, especially those from minority groups, to enter teaching;
- Collaborate with other organizations already engaged in programmatic work on this issue;
- Highlight the minority teacher recruitment issue at NBPTS forums.

**Improving Teacher Education and Continuing Professional Development**

Teacher education is currently the focus of an extraordinary amount of reformist attention. The research university schools of education are redefining the preparation of new teachers in their institutions. Several leading university presidents are encouraging collaborative efforts between their arts and sciences faculties and their education faculties. States are either abolishing undergraduate education majors, requiring more college credits for state licensing, or both. State legislators and governors want prospective teachers to have a better grounding in the subjects they will teach and are also exhibiting increasing interest in finding new ways for experienced individuals from other fields to become employed in teaching. At the same time, accreditation agencies are calling for greater attention to the knowledge base of teaching. The induction phase of teaching is a subject of growing interest, as first mentor teacher programs and then the concept of professional development schools emerged as mechanisms to provide better supervised and richer clinical experiences. Finally, all across the country there are projects linking college faculty and elementary and secondary school teachers in collaborative efforts to strengthen the quality of instruction. Into this mix will come the National Board's standards and the prospect of their being recognized in various ways by state and local authorities. This might fuel positive action on campus as colleges and universities contemplate whether their current programs adequately prepare their graduates for National Board Certification. It might also stimulate fresh approaches to in-service training programs in the schools and to the patterns of graduate credit accumulation by experienced teachers.

The National Board's focus is the experienced teacher, not the novice. However, it is in the National Board's and the nation's interest to see new teachers well prepared so that they can eventually meet the National Board's standards. The National Board will encourage state and local authorities to assist new teachers and teacher education institutions in becoming familiar with the National Board's standards and assessments. Wherever possible, the National Board also will draw upon the expertise already available in the teacher education community in its research and development work.

Teacher education institutions are diverse in their organization and orientation. Some currently operate like professional schools, integrating subject knowledge and pedagogy. Some already involve arts and sciences faculties in the preparation of new teachers. Others remain isolated from the rest of their institutional community. If the National Board is successful in building a broader consensus of what accomplished teachers should know and be able to do, this knowledge base should eventually form the

core of teacher preparation. Ideally, then, from the National Board's perspective, teacher education institutions might, in time, provide a first level of de facto screening for potential candidates.

However, the result of all this turmoil is none too certain; the pull of inertia in the academy is quite powerful. Resistance to change what has "worked" in the past is not unique to these institutions (vivid examples can regularly be found in government and business as well), but with teacher education it is exacerbated by other factors. These include the modest status that schools of education hold in most institutions, the low priority accorded teaching by the higher education community, the disinclination of arts and sciences faculties to accept responsibility for preparing teachers, and a fiscal structure in most institutions that tends, as a general matter, to retard curricular reform.

While a focus on systematic improvement in the preparation of new teachers is vital, most of the National Board's initial clientele will be teachers with substantial experience, many of whom have been less rewarded than they might be by years of in-service training. But excellence in teaching, as in other professions, requires continuing education and the ongoing refinement of practice. Professional development opportunities for teachers should be plentiful, of high quality and conducive to continuous self-directed intellectual and skill growth.

Such programs can flourish in many settings. No doubt they will continue to be offered in institutions of higher education, at the school site and on a district-wide basis. Professional development can also take the form of independent study with a mentor or can occur among independent peer groups. Teacher unions already provide professional development opportunities for their members; these efforts can expand and diversify. Corporations, community agencies and cultural institutions can offer teachers unique resources and learning experiences that will advance their work. By creatively redefining what constitutes professional development for teachers, the National Board can encourage the involvement of many people and organizations not currently engaged in professional development. Such activities, if well structured, can be shaped to better suit the particular needs and interests of each teacher.

The kind of strengthening of the school environment discussed above can not proceed effectively without the active leadership of teachers and school administrators. The capacity of principals and other administrators to succeed in leading and encouraging positive change in the school environment would surely be enhanced if programs of education administration came to reflect these new conceptions of teacher professionalism.

**The National Board will seek to enhance the preparation and induction of new teachers and the continuing professional development of experienced teachers.** To further these objectives, the National Board will:

- ❑ Open a series of conversations with teachers, the higher education community and state and local policymakers regarding the National Board's standards, assessment practices and research and development plans, and the prospect of taking advantage of the opportunity presented by the redesign of teacher education programs to make them more compatible with emerging notions of teacher professionalism;

- ❑ Use the NBPTS forums and other means to obtain reactions to the National Board's standards and to suggest ways that higher education can better prepare students to meet those standards;

- Work to expand the concept of professional development to reflect the National Board's vision of the role and responsibilities of an accomplished teacher;

- Explore how the emergence of the National Board's certification procedures might stimulate the development of richer models of professional preparation;

- Stay abreast of the emergence of new fields of inquiry and the maturation of current fields that either deserve recognition in the National Board's standards or could lead to improvements in the National Board's assessment processes.

# PLANS OF THE NATIONAL BOARD

Since its formation in 1987, the National Board for Professional Teaching Standards has recognized the complexity of its mission and the mix of resources—talent, dollars and technology—required to achieve its ambitious mission.

During 1988 and the first half of 1989, the National Board launched its activities, defined its mission and strategies, and developed and adopted the basic policies that will guide its work in the years ahead. This initial phase of the National Board's work concluded with adoption of the policies contained herein and in the publication of this report.

The second phase of the National Board's work began in mid-1989. Major tasks in the second phase include defining standards in each certification field, developing assessment methods and products for each certification field, raising approximately $50 million needed to fund research and development activities, advancing key education policy and reform issues, communicating with dozens of constituency groups, initiating early marketing activities, and planning and preparing for the operation of the National Board Certification system.

The third phase, which will begin in 1993, will introduce National Board Certification. It will take several years to phase in the entire system. During these years the National Board will complete the transition from being primarily a research and development organization to becoming a professional certification organization. This chapter summarizes results achieved during Phase One and presents plans of the National Board for Phases Two and Three.

## PHASE ONE: INITIAL POLICY FORMATION (1988-1989)

During the first phase of its work, in addition to policies described in this report, the National Board developed a Strategic Plan to guide its overall work during the years ahead.

As stated in the Plan, **the mission of the National Board for Professional Teaching Standards is to establish high and rigorous standards for what teachers should know and be able to do, to certify teachers who meet those standards, and to advance related education reforms for the purpose of improving student learning in American schools.**

Four goals will guide the National Board's work during the next several years:

**I. To identify the knowledge, skills and dispositions that describe accomplished teaching and to convert those attributes into high and rigorous standards upon which to base the National Board Certification system.**

**II. To develop state-of-the-art assessment methods to ascertain who meets the standards for National Board Certification.**

**III. To advance education policy and reform in order to improve the quality of teaching and student learning.**

**IV. To become a self-financing, national, nonprofit organization with excellent leadership and strong communications and marketing capabilities.**

The Strategic Plan spells out an integrated series of steps to be taken in pursuit of each of the four goals. The preceding policy statements provide the foundation for those actions. The major assumptions upon which the National Board's actions will be based over the next five years are also identified in the Plan. To assure its continuing relevance, the Strategic Plan itself will be reviewed on an annual basis and, where appropriate, modified by the National Board.

## PHASE TWO: RESEARCH AND DEVELOPMENT (1989-1993)

The National Board's adoption of the statement, "What Teachers Should Know and Be able to Do," and its policy guidelines regarding assessments, were the critical steps needed to launch the second phase of work, which is focused primarily on research and development activities. Arrived at after extensive discussion, debate and modification, these statements supply the foundation upon which work may now proceed on many fronts. Phase Two is concentrated on two closely coordinated elements: specification of certification standards for each field and development of assessment products and delivery systems.

### Certification Standards

Statements describing the attributes of accomplished teaching contained in "What Teachers Should Know and Be Able To Do" must be converted into standards for each certification field against which appropriate and valid assessments can be developed. The crafting of certification standards will involve close collaboration among teachers, scholars, other educators, and lay leaders. Specific standards will be devised for each of the certification fields. The National Board expects to begin work by drafting standards in five fields initially, and then pick up the pace of development as it gains experience from its initial work and as funding permits. Early drafts will be revised and refined to reflect wisdom accumulated during the research and development program and to assure compatibility across fields.

A majority of members of each standards committee will be teachers. Other members will be drawn from relevant disciplinary organizations and the larger education community.

For each certification field, the standards committee will translate into operational terms the core attributes identified in "What Teachers Should Know and be Able to Do." In doing so, the committees will draw upon the latest research in each field plus the experience and insights of teachers and other educators. Each committee will be informed by and serve as a sounding board for the contractors charged with developing assessment products for the field in question.

In such an ambitious and uncharted undertaking, it can be anticipated that the initial statements of certification standards will be subject to ongoing review and possible modification. Some initial standards may not readily yield to reliable, valid or affordable assessments. Furthermore, new research and knowledge gained from the National Board's development process will suggest ways to clarify and improve the standards and assessment methods. The actual pace of this work will depend a great deal upon expeditiously solving the unforeseen problems that will inevitably emerge in each field. The first five standards committees appointed are: Early Adolescence/English Language Arts, Adolescence and Young Adulthood/ Mathematics, Early Adolescence/Generalist, Early Adolescence through Young Adult-hood/Art, and Middle Childhood/Generalist.

### Assessment Product Development

Between now and 1993, the actual development of valid and acceptable assessment products will be the most original, costly and demanding facet of the National Board's ageda. In Chapter V, "Principles to Guide the Development of Assessments," the National Board sets forth the policies and proposed approaches that it intends to explore in order to complete this

difficult task. It assumes that a variety of assessment methodologies will be customized for use in each field. Current estimates indicate that $50 million will be required to complete the process of defining standards and developing and field-testing assessment products for use across all fields and to implement the National Board Certification system.

To conduct this vital work as rapidly, carefully, and imaginatively as funding permits, the National Board will fund and supervise a series of Assessment Development Laboratories (ADLs). Each ADL will be selected based on an open, competitive basis that includes a rigorous merit review.

Close working relations with teachers, scholars and assessment experts will mark the process for developing valid instruments and procedures. As previously noted, regular interaction is anticipated with the standards committees for each field. In order to build trust and confidence in National Board Certification, and to capitalize on the vast reservoir of goodwill that NBPTS has found across the education community, NBPTS will find regular occasions to reveal its work in progress. This will stimulate constructive criticism, provoke interest, discussion and good ideas, and will yield a stronger product than would operating a closed project.

In addition to the system of ADLs, cross-cutting research, a technical analysis group, and a field test network (including a broad sample of school districts and states) will be established to achieve the National Board's mission.

The Strategic Plan calls for pursuing assessment product development just as rapidly as certification standards can be prepared, as funding availability will permit, and as research results dictate. Even after the completion of the first assessments, the National Board will maintain a capacity to improve and update its early products.

Contracts for the first batch of re-search and development projects will be awarded during 1990 and 1991 in order to permit the delivery of the first assessments in five fields by the end of 1993.

### Education Policy and Reform

The design and early implementation of the system for National Board Certification is clearly the central task that will dominate attention during Phase Two. In addition, however, the National Board will give priority to three areas of education reform with a direct bearing upon its primary mission. Spelled out in Chapter VI, "Education Policy and Reform Priorities," these issues are:

- Creating a more effective environment for teaching and learning in schools.
- Increasing the supply of high-quality entrants into the profession, with special emphasis on minority teachers.
- Improving teacher education and continuing professional development.

A position paper will be prepared for each issue. Work regarding these policy areas will be grounded in the board's standards and assessments. The papers will enable the National Board to formulate several initiatives for program action regarding these issues during Phase Two.

### Supporting the Research and Development Work

The National Board expects to support its forthcoming research and development activities with a full range of complementary activities.

In January 1988, one of the National Board's earliest actions was to frame and adopt a five-year fund-raising plan to raise $50 million, the estimated research and development start-up costs. A national

campaign to realize that goal has begun with strategies in place to secure support from corporations, foundations, and other sources, as well as one-time funding from the federal government.

A public affairs program, designed to assure ongoing and close two-way communication with core constituency groups, has been established. National, state and regional NBPTS forums, as well as other activities, will increase public understanding of the National Board's mission and goals and will provide useful comment and criticism regarding the National Board's work. An expanded publications program will be initiated and marketing activities will also be undertaken.

## PHASE THREE: OPERATIONS (1990 AND BEYOND)

In 1993, the National Board expects to begin assessing its first group of teacher candidates for National Board Certification. By that time, the National Board must have designed and put into place the management and information systems that will be needed to serve those seeking National Board Certification.

Consequently, in its planning, the National Board will consider operational issues such as the location and geographical distribution of assessment sites, the costs and benefits of contracting out versus direct administration of all or some components of particular assessments, and the computer and other systems that will be required. Several financial scenarios will also be prepared for early review by the National Board. The experience of other professions will be thoroughly examined in the course of this work.

In 1990, a marketing plan will be prepared and the National Board will consider how it may best reach the more than 2.5 million members of the teaching profession, many of whom will be candidates for National Board Certification. Marketing efforts will intensify as 1993 approaches and the first candidates apply for National Board Certification.

Any early vision of the National Board's future as an operating organization must, of course, be subject to constant change and refinement. Even so, beginning now to consider future structural, logistical and financial requirements will provide the National Board with a set of realistic parameters to guide its planning activities as well as its research and development work.

In the years ahead, the National Board will continue to plan carefully. Its mission and goals are too vital and too complex to do otherwise. The National Board also intends to maintain close two-way communication with all those interested in and affected by its work.

The National Board will develop its new system of National Board Certification as fast as it can, but only as fast as it can be done right. Its current plans are ambitious; its communication channels are open; its determination is strong. With the help of the thousands of educators, researchers, and citizens who endorse and support the National Board, it will accomplish its mission and contribute to a significant improvement in teaching and learning in American schools.

# BOARD OF DIRECTORS

## Board of Directors

**James Baxter Hunt Jr. - Chair**

James Baxter Hunt Jr., currently a senior partner with the law firm of Poyner and Spruill, served as the first two-term governor of **North Carolina**, holding office from 1977 to 1985. He is the originator and chair of the board of Triangle East, an industrial development enterprise, and serves as an adjunct professor of economics and business at North Carolina State University. Governor Hunt has chaired the National Governors' Association Task Force on Technological Innovation, the Education Commission of the States (ECS), and the ECS Task Force on Education for Economic Growth, which produced Action for Excellence, one of the major education reform reports of 1983. He is currently vice chair of the board of trustees of the National Center on Education and the Economy. Governor Hunt chaired the 33-member planning group which laid the groundwork for the creation of the National Board, and was elected NBPTS chair in 1987. Governor Hunt serves on the board of trustees at Barton College in Wilson, North Carolina, and Wake Forest University in Winston-Salem. He also chairs the Emerging Issues Forum at North Carolina State University.

**Claire L. Pelton - Vice Chair**

Claire L. Pelton is director of educational services and a demonstration teacher for the San Jose Unified School District in **California**. An administrator who also teaches, she has spent most of her career at Los Altos High School in Los Altos, California, as an English teacher and school-site counselor and coordinator. Ms. Pelton also served as a mentor teacher and chair for the English Department at Los Altos High School. She has served as chair of the Committee on Testing and Evaluation and a member of the Task Force on Teacher Competency Issues of the National Council of Teachers of English. Ms. Pelton is currently a trustee of The College Board, and has been recognized by the California State Legislature for her professional contributions to education. She has been president of the California Council on the Education of Teachers and was a member of the California State Board of Education Committee on College Accreditation of Teacher Education programs.

**James A. Kelly - President and Chief Executive Officer**

James A. Kelly was elected as the National Board's first president in October 1987. He began his career in education as a teacher and school administrator. Mr. Kelly previously served as president of the Center for Creative Studies in Detroit, **Michigan**, and the Spring Hill Conference Center in Wayzata, Minnesota. As a Ford Foundation program officer from 1970 to 1981, he directed programs in education finance reform. He has also been on the faculty of Teachers College at Columbia University, taught at the Harvard University Graduate School of Education, and served as executive associate with the National Urban Coalition.

**Gil R. Alexander**

Gil R. Alexander is an earth science teacher at Helena High School in Helena, **Montana**, and president of the Montana Science Teachers Association. A past president and current board member of the Montana Earth Science Teachers Association, Mr. Alexander is also membership secretary for the National Earth Science Teachers Association. He received a Presidential Award for Excellence in Science Education in 1987, and was awarded a paid sabbatical leave from US

WEST as their Outstanding Teacher from the Western Region. Mr. Alexander is co-director and founder of the Montana Summer Science Camp and the Canyon Ferry Limnological Institute. He received an honorary doctor of science degree from Montana State University in June 1990.

**C. Leonard Anderson**

C. Leonard Anderson is a school librarian/media specialist at Grant High School in the Portland, **Oregon**, Public Schools. He was president of the Portland Association of Teachers and the National Council of Urban Education Associations, has been a member and chairman of the Oregon Teachers Standards and Practices Commission, and was vice president of the Oregon Education Association. He is chair of the National Education Association's (NEA) Standing Committee on Instruction and Professional Development, and is a member of the NEA Board of Directors. He also serves on the Board of Examiners of the National Council for the Accreditation of Teacher Education.

**Josephine Bennett**

Josephine Bennett is a biology teacher at Whitehaven High School in Memphis, **Tennessee**. She has served as a member of the state's Curriculum and Instructional Services Committee, and as an official of the National Biology Teachers Association and the Science Association of Tennessee. Ms. Bennett received the Presidential Award for Excellence in the Teaching of Biology in 1983, and has been honored for her teaching by a wide variety of organizations, including the city of Memphis, the Tennessee Academy of Science, and the NAACP.

**Terry Branstad**

Terry Branstad is governor of **Iowa**, first elected in 1982 and re-elected in 1986 and 1990. Prior to that he served as lieutenant governor for one term and served in the Iowa House of Representatives for three terms. When not involved with politics, he is an attorney/farmer. He received his B.A. in political science from the University of Iowa, and his Juris Doctorate from Drake University Law School. He served as chair of the National Governors' Association in 1989-90.

**Alan K. Campbell**

Alan K. (Scotty) Campbell is a visiting executive professor at the Wharton School of the University of **Pennsylvania** in Philadelphia. He serves on the board of ARA Services, Inc., and was formerly the company's vice chair. As chair of the Civil Service Commission and first director of the Office of Personnel Management during the Carter administration, he oversaw the reform of the Federal Civil Service System. Mr. Campbell has been dean of the Maxwell School of Citizenship and Public Affairs at Syracuse University, and of the LBJ School of Public Affairs at the University of Texas. He chaired the Committee for Economic Development's Task Force on the Teaching Profession, is a commissioner of the Education Commission of the States, and was a member of the Carnegie Task Force on Teaching as a Profession. He is president of the Association of Policy Analysis and Management.

**Iris Carl**

Iris Carl is an elementary mathematics instruction specialist in the Houston, **Texas**, Independent School District. Past president of the National Council of Supervisors of

Mathematics, Ms. Carl is currently president of the National Council of Teachers of Mathematics. She serves on the Mathematics Advisory Committee for the National Assessment of Educational Progress, is a writer for the Curriculum Improvement Program of the Texas Education Agency, and is a mathematics advisor for Gulf Region Educational Television.

**Ivy H. Chan**

Ivy H. Chan is a special education teacher at Garfield Elementary School in Olympia, **Washington**. She serves as an itinerant member of the school staff, collaborating with regular teachers to avoid pulling out low-performing students. She is a member of the Washington Education Association's Restructuring Cadre and an adjunct professor at Seattle Pacific University. Ms. Chan has been a building representative for the Olympia Education Association, developed teaching materials now regularly used in both Griffin and Olympia counties, and served as a 4-H youth leader for the County Extension Service. A board member for the Capital Area Youth Symphony, Ms. Chan is a recipient of Washington State's Christa McAuliffe Excellence in Education Award.

**Thomas W. Cole Jr.**

Thomas W. Cole Jr. is president of Clark Atlanta University in Atlanta, **Georgia**, one of the top historically Black universities in the country. Formerly president of West Virginia State College, Dr. Cole is a member of the board of trustees at the National Center on Education and the Economy and belongs to a resource group for the Quality Education for Minorities Project at the Massachusetts Institute of Technology. He holds professional memberships in the American Chemical Society, the American Association for the Advancement of Science, the National Institute of Science, and the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers.

**James P. Comer**

James P. Comer is the Maurice Falk Professor of Child Psychiatry at the Yale Child Study Center, Yale University (**Connecticut**). He has had an extended working relationship with the New Haven schools, applying principles of psychiatry and behavioral science to the problems of inner-city children. Success there has led to the transfer of his model to schools in seven other states. A co-founder and former president of Black Psychiatrists of America, he has also chaired the American Academy of Child Psychiatry's Committee on Adolescence. Recently, Dr. Comer has served as an advisor to the Committee on Economic Development's Task Force on the Educationally Disadvantaged and as a member of Carnegie Corporation's Task Force on Early Adolescence. He was a 1990 recipient of the distinguished Harold W. McGraw Jr. Prize in Education.

**Eugene H. Cota-Robles**

Eugene H. Cota-Robles is emeritus professor of biology at the University of **California** at Santa Cruz, where he also served as academic vice chancellor and provost of Crown College. He recently retired as the assistant vice president for academic advancement in the systemwide Office of the President of the University of California. Dr. Cota-Robles is a member of the board of trustees of the Carnegie Corporation of New York, the Carnegie Foundation for the Advancement of Teaching, and the Tomás

Rivera Center. He is on the boards of the American Association for the Advancement of Science and MESA (Mathematics Engineering and Science Achievement), and is a founding member and president of the board of trustees of the National Chicano Council on Higher Education. He served as the first president of the Society for Advancement of Chicanos and Native Americans in Science.

**Joseph D. Delaney**

Joseph D. Delaney is assistant superintendent for instruction in Spartanburg School District Seven, Spartanburg, **South Carolina**. He has served as principal at Spartanburg High School, as a junior high and elementary school principal, and as a social studies teacher and coach. Mr. Delaney is past president of the local International Reading Association, the Spartanburg County Education Association, and was a member of the State Teacher Incentive Program Advisory Committee. Mr. Delaney is past president of the South Carolina Association of School Administrators and is past president of the South Carolina Association of Secondary School Principals.

**Martha F. Dolfi**

Martha F. Dolfi teaches language arts and math at the Brookline Elementary Teachers Center in Pittsburgh, **Pennsylvania**. She is a member of the Brookline Parent Center Cabinet and of the task force that designed the Brookline Center. Ms. Dolfi was selected as the 1986 Pennsylvania Teacher of the Year and served as a judge for Redbook's annual review of children's literature. Recently, Ms. Dolfi was named to the Organizing Committee of the CED Pittsburgh Teacher/Business Roundtable. She is a member of Brookline Partnership In Education, an organization linking schools, corporations, and the local chamber of commerce.

**Karen C. Dreyfuss**

Karen C. Dreyfuss is director of the Dade-Monroe Teacher Education Center in Miami, **Florida**. Prior to her present assignment, she taught French and Latin in the Dade County Public Schools for 17 years and spent one year as teacher on special assignment to the deputy superintendent of schools. In 1985, she was named Dade County Teacher of the Year. In 1986, Ms. Dreyfuss served on the Committee for Economic Development and was a presenter at the Miami Business/Teacher Roundtable. She also served on the 1985-86 Professionalization of Teaching Task Force, which gave rise to Dade County's nationally recognized pilot program in school-based management/shared decision-making. She presently serves on the School-Based Management Design Team and oversees training and technical assistance for the schools.

**Joel Aaron Fink**

Joel Aaron Fink is a guidance counselor at South Oldham High School in Crestwood, **Kentucky**. Previously he was a biology teacher at Oldham County High School for twelve years. Mr. Fink was selected as Kentucky Teacher of the Year in 1986 and earned the Governor's Outstanding Citizens Award. Mr. Fink was a member of the Special Task Force on Education in Kentucky that developed the report, The Reformation of Teacher Education and Certification in Kentucky. He also participated in the Biology Teacher Assessment Project (BioTAP) at Stanford University. He has served on various district committees and was a member of the committee responsible for the development of their teacher evaluation sys-

tem. Mr. Fink is also currently a member of the Educator's Advisory Board for Whittle Communication's student news program, Channel One.

**E. Harold Fisher**

E. Harold Fisher was elected vice president of the National School Boards Association (NSBA) in April 1990. The previous year, he served as secretary-treasurer, and has been a member of NSBA's board of directors since 1986. A member of the NSBA Executive Committee, Mr. Fisher also serves as board liaison to the NSBA Large District Forum. He is president of the South Tippah School Board in Tippah County, **Mississippi**, and serves as a member of the North/South Tippah Vo-Tech Board of Tippah County. A former teacher and administrator, he served eleven years on the Tippah County School Board and is a past president of the Mississippi School Boards Association. Mr. Fisher is currently president of Blue Mountain College in Blue Mountain, Mississippi.

**E.K. Fretwell Jr.**

E.K. Fretwell Jr. serves as chancellor emeritus of the University of **North Carolina** at Charlotte, which he headed for ten years, and is now senior associate with MDC Inc., working with the North Carolina community college system. A former public school teacher in Brookline, Massachusetts, he taught English at Evanston (IL) Township High School and Community College, and courses in educational administration and curriculum at Teachers College, Columbia University. Mr. Fretwell served for 11 years as president of SUNY College at Buffalo, as a dean at City University of New York, and as New York State's assistant commissioner for higher education. He has been elected head of the American Association of State Colleges and Universities and three other major national higher education organizations, the Middle States Association of Colleges and Universities, the Carnegie Foundation for the Advancement of Teaching, the Council on Postsecondary Accreditation and the North Carolina Association of Colleges. Currently Mr. Fretwell is a member of the National Commission on Cooperative Education, the assessment task force of the Federation of National Boards of Medical Examiners, and is a consultant to several state organizations.

**Keith B. Geiger**

A former high school math and science teacher, Keith B. Geiger is president of the National Education Association in **Washington, D.C**. Active in the campaign to restructure American education, Mr. Geiger serves on the Education Policy Advisory Committee appointed by President Bush, and is co-chair of the Martin Luther King Jr. National Education Committee. He also serves on the advisory boards of the RJR Nabisco Next Century Schools Fund, the Commission on Presidential Scholars, and the National Council for the Accreditation of Teacher Education executive committee. A former president of the Michigan Education Association, he was vice president of the NEA for six years before his election as president in 1989.

**Charleyne A. Gilbert**

Charleyne A. Gilbert is a business educator at Westbrook High School in **Maine**. She is past vice president of the American Vocational Association's Region I, and has been president of the Business Education Association of Maine. The developer of a number of business education courses, Ms. Gilbert served as a member of the writing committee for the Shorthand Curriculum

Guide of Maine. Ms. Gilbert's honors include 1988 Business Educator of the Year, and 1989 Maine Vocational Educator of the Year. She is past president of the Maine Vocational Association (MVA) and serves on the board of the Business for Education and Skill Training Alliance (B.E.S.T.).

**Barbara R. Hatton**

Barbara R. Hatton is deputy director for the Ford Foundation's Education and Culture Program in **New York**. She began her career as a secondary school mathematics teacher in the Atlanta Public Schools. She has previously served as professor and dean of the School of Education at Tuskegee University, dean of the School of Education at Atlanta University, and assistant professor of education administration and policy studies at Stanford University. Ms. Hatton served as associate director of the Stanford Urban/Rural Institute, past chair of the Georgia Professional Standards Commission, and as a member of the Southern Regional Educational Board's Commission on Educational Quality. She is a trustee of the Edward W. Hazen Foundation in New York City, a small national foundation devoted to youth development and school reform. In addition, she is a member of the boards of visitors for the schools of education at the University of Pittsburgh, the University of Southern California, and Bennett College.

**Richard E. Heckert**

Richard E. Heckert is the retired chair and chief executive officer (now chair of the Finance Committee) of the Du Pont Company in Wilmington, **Delaware**, having joined the company in 1949 as a research chemist. He is chair of the board of the Carnegie Institution of Washington, and a member of the Finance Committee of the Joint Council on Economic Education. Mr. Heckert was appointed to the Advisory Committee for Trade Negotiations by President Carter, and chaired the National Association of Science's Panel on Secondary School Education for the Changing Workplace. He is currently on the board of the National Action Council for Minorities in Engineering, and a director of the National Association of Manufacturers.

**Sonia Hernandez**

Sonia Hernandez is secretary of education for Governor Ann Richards of **Texas**. Previously with the National Center on Education and the Economy in New York and the National Alliance for Restructuring Education, Ms. Hernandez began her public school career as a classroom teacher specializing in early childhood, and served as an elementary schoolteaching principal prior to joining the National Center staff in 1988. She was the Hispanic Woman of the Year for the Southwest United States in 1982, and has served as president of Communities Organized for Public Service and chair of the Texas Association for Bilingual Education. She was also a participant in the Education Commission of the States' Teacher Renaissance Program.

**Joseph Hieu**

Joseph Hieu teaches history and sociology at Clemente Community Academy in Chicago **(Illinois)**. He is also an instructor at the City Colleges of Chicago. As president of the International Association of Volunteers for Human Services and Leadership Development since 1963, Mr. Hieu has helped thousands of orphans and war victims in Vietnam, and sponsored more than 1,000 refugees from Southeast Asia to the United States. He received a Presidential Medal on Volunteerism in 1983 for his humanitarian

services. Mr. Hieu also received the Community Volunteer award from the CBS Radio Network in 1985, and the 1987 Golden Apple award as an outstanding educator of the year from PBS/WTTW-TV and Northwestern University, in cooperation with the Foundation for Excellence in Teaching. He was honored with the Governor's Distinguished Leadership Award in 1989, and the Community Service Award from the Asian American Coalition of Chicago in 1990.

**Shirley A. Hill**

Shirley A. Hill is curators' professor of education and mathematics at the University of **Missouri**-Kansas City. She serves on several advisory boards for projects in mathematics education. She is a member of the board of governors of the Mathematical Association of America. Ms. Hill is a former president of the National Council of Teachers of Mathematics, and the founding and immediate past chair of the Mathematical Sciences Education Board of the National Research Council. Her research interests have focused on logic, geometry, teacher education, and mathematics learning.

**Bill Honig**

Bill Honig has been superintendent of public instruction for the State of **California** since his election in 1982. After pursuing a successful law career, Mr. Honig joined the Teacher Corps in 1971 and worked as an elementary school teacher in Hunter's Point, an economically depressed area in the San Francisco Unified School District. He then served as superintendent of the Reed Union Elementary School District in Marin County. As state superintendent he helped create the California Commission on the Teaching Profession, which produced Who Will Teach Our Children?, an important precursor to A Nation Prepared. Mr. Honig also serves as executive officer and secretary of the California State Board of Education.

**Sue Hovey**

Sue Hovey is the gifted teacher coordinator at Moscow High School in Moscow, **Idaho**, where she has taught American government and sociology and in 1972 was elected Moscow Teacher of the Year. Ms. Hovey chaired the Idaho Professional Standards Commission and the Idaho Committee for Revision of Secondary Teacher Certification. She is a member of the National Education Association's Executive Committee, serves on the NEA board of directors, and has chaired their Credentials Committee and Pacific States Caucus. Ms. Hovey is an Education Commission of the States commissioner and served as a Working Party member for the Teacher Renaissance Project. She was also honored in 1989 as one of 10 outstanding alumni of the University of Idaho College of Education.

**Nancy L. Jewell**

Nancy L. Jewell retired as vice president of the **Oklahoma** Education Association (OEA) in July 1990. She served six years on the board of directors of the National Education Association and chaired the NEA Standing Committee for Instruction and Professional Development and the NEA Affiliate Relationships Committee. Ms. Jewell, a past president of the OEA, was a member of the Oklahoma Commission of Educational Administration and the Oklahoma Professional Standards Board. Ms. Jewell has served as a consultant to the Educational Testing Service for the National Teacher Examination. She taught English and Spanish in the Enid, Oklahoma, schools for 26 years, helped develop the curriculum for

the gifted/talented program, edited the scope and sequence for the course of study, and taught ninth grade gifted/talented English. She is currently an adjunct faculty member at Oklahoma State University in Stillwater, observing and evaluating beginning teachers in the university's entry-level teacher program.

**Ann P. Kahn**

Ann P. Kahn, who now serves as an educational consultant to such groups as the Mathematical Sciences Education Board of the National Academy of Science, is a past president of the National Parent-Teacher Association (PTA). A resident of Fairfax, **Virginia**, she has been the chair of the Washington Area PTA Legislative Service Committee. For 12 years she served on the school board of Fairfax County, Virginia, and for three years was chair of that board. In 1979 Ms. Kahn received a Citation of Merit for "Two Decades of Contributions to Education and Youth," presented jointly by the Fairfax County Federation of Citizens Associations, League of Woman Voters, County Council of PTAs, United Way, Black Citizens Association, Community Ministry, and Chamber of Commerce. She currently serves on the advisory boards of the National Science Resource Center of the Smithsonian Institution and KIDSNET.

**Susan Adler Kaplan**

Susan Adler Kaplan is a supervisor of English and writing teaching for the Providence Public Schools in Providence, **Rhode Island**, and coordinator of the Providence Public School's secondary writing programs. In 1983 she was named Providence's Teacher of the Year. Ms. Kaplan is a trustee of Brown University, and is a member of their Advisory and Executive Committee. Additionally, for Brown University's Department of Education, she has been an adjunct lecturer, director of a collaborative research project for teacher education, and a consultant to the Coalition of Essential Schools. Ms. Kaplan is a member of the Executive Committee of the Rhode Island Council of Teachers of English, and of the Rhode Island Consortium on Writing. She is the current chair of the National Council of Teachers of English Committee on Certification and Assessment of English Teachers.

**Vera Katz**

Vera Katz is serving her tenth term in the **Oregon** House of Representatives, and was Speaker of the House for three terms. Rep. Katz is a trustee of the National Center on Education and the Economy, and serves on the National Council for Science and Technology Education and the Nelson A. Rockefeller Institute of Government, Center for the Study of the States Advisory Committee. She is the director of development at Portland Community College.

**David T. Kearns**

David T. Kearns is chair of Xerox Corporation in Stamford, **Connecticut**. He is a member of the Business Council and the Council on Foreign Relations. Prior to joining Xerox in 1971, Mr. Kearns was a vice president at IBM. Today, he is on the board of the National Urban League, and is also a member of the President's Education Policy Advisory Committee. Mr. Kearns was a member of the Education Commission of the States' Task Force on Education for Economic Growth. As of May 20, 1991, Mr. Kearns resigned from the NBPTS board of directors, upon confirmation as U.S. deputy secretary of education.

**Nathaniel H. LaCour Jr.**

Nathaniel H. LaCour Jr. is president of United Teachers of New Orleans. He began his career as a high school biology teacher. Currently, he is executive vice president of the **Louisiana** Federation of Teachers, vice president of the Greater New Orleans AFL/CIO, and a vice president of the American Federation of Teachers. Mr. LaCour was a member of the Louisiana Teacher Certification Advisory Board and is a member of the Governor's Career Ladder Commission. He has served as chair of the New Orleans Manpower Advisory Planning Council and as a member of the Executive Board of the New Orleans Urban League.

**Judith E. Lanier**

Judith E. Lanier is distinguished university professor and dean of the College of Education at Michigan State University (MSU) in East Lansing, **Michigan**, and executive director of the Michigan Partnership for New Education. She began her career teaching in a one-room country schoolhouse, and later taught English and history in junior high and high school. She is president of the Holmes Group Consortium and chair of the group's steering committee, and she was founding co-director of the Institute for Research on Teaching (IRT) at MSU. Dr. Lanier also served as the first vice president of the American Educational Research Association's Division on Teaching and Teacher Education. She has authored numerous articles and research papers. Her research focuses on professional study in schools of education and professional practice in the elementary and secondary sector. She is an elected member of the National Academy of Education.

**Peggy J. Lathlaen**

Peggy J. Lathlaen is a teacher of gifted children at Westwood Elementary School in Friendswood, **Texas**, and has also taught at the university level. She was named Outstanding Teacher of the Year in 1985 by the Texas Association for Supervision and Curriculum Development and was chosen as one of the 10 finalists in NASA's Teacher-in-Space program. Ms. Lathlaen is the current chair of the National Association for Gifted Children's Parent Community Section, and a member of the NAGC board of directors.

**Esther Simmons Lauderman**

Esther Simmons Lauderman, a kindergarten teacher at Williamstown Elementary School in **West Virginia**, was the state Teacher of the Year in 1988. She is chair of "Special K's," a county-wide collaboration of kindergarten teachers focused on early childhood research issues and innovative practice, and works with the state Department of Education and legislative education committees on education reform issues. Ms. Lauderman is a member of the West Virginia Institute for Educational Governance and a member of the Planning Committee for the West Virginia Teachers' Forum. She initiated and directed the first Teachers Academy project for Wood County teachers. She is the first recipient of the West Virginia Federation of Teachers' Apple Award, and was named the 1990 recipient of the West Virginia Association for Young Children Award.

**Barbara B. Laws**

Barbara B. Laws is an itinerant elementary art teacher for the Norfolk (**Virginia**) Public Schools, currently assigned to Chesterfield and Ocean View Elementary schools. She is a past president of the Virginia Art

Education Association, a member of the Virginia State Board's Art Education Certification Task Force, and a faculty member of the National Art Education Association's (NAEA) Leader Academy. Ms. Laws was National Elementary Art Educator of the Year in 1987 and is NAEA vice president, Southeast Region.

**Katherine P. Layton**

Katherine P. Layton is a mathematics teacher and mentor teacher at Beverly Hills High School in **California**. She has also served as chair of the Beverly Hills High School mathematics department, and as a visiting lecturer in the mathematics departments of UCLA and Clemson University. She is the 1990 Presidential Awardee for Excellence in Mathematics Teaching from California. Ms. Layton is a member of the California Mathematics Assessment Advisory Committee. She is a former member of the board of directors of the National Council of Teachers of Mathematics and the board of governors of the Mathematical Association of America. She has also served on the Mathematical Sciences Education Board, the California State Model Curriculum Standards Mathematics Advisory Committee, on the College Board's Council on Academic Affairs, and on the National Science Board's Commission on PreCollege Education in Mathematics, Science, and Technology.

**Susan M. Lloyd**

Susan M. Lloyd is a history and music teacher at Phillips Academy in Andover, **Massachusetts**, where she directs the school's small choir and coaches chamber music. She is founder and coordinator of the Lawrence High School/Phillips Academy Urban Studies Institute, a cooperative program in which students research urban problems. Ms. Lloyd has served as one of eight commissioners on the National Association of Independent Schools/National Association of Secondary School Principals Commission on Educational Issues. She is the author of numerous reviews and historical articles on education. Her most recent book, The Putney School: A Progressive Experiment, was published by Yale University Press.

**A. Robert Lynch**

A. Robert Lynch teaches social studies at Jericho High School on Long Island, **New York**. A former member of the National Council for Social Studies Board of Directors, he also serves as executive director of the New York State and Long Island Council for Social Studies. Mr. Lynch was a member of the Working Party of the Education Commission of the States' Teacher Renaissance Project. He is treasurer and chief negotiator of the Jericho Teachers Association. Mr. Lynch was recently selected by the Joint Council on Economic Education as one of 24 teachers to participate in a national program at the University of Delaware for a master of instruction in economic education.

**Helen E. Martin**

Helen E. Martin teaches earth and space science to juniors and seniors at Unionville High School in **Pennsylvania**. Ms. Martin and her students built and now operate a weather satellite tracking station, which they use to track American and Russian satellites and which has allowed them to follow hurricanes. Ms. Martin is an adjunct professor in the School of Education at West Chester University in West Chester, Pennsylvania, and currently serves as president of the Satellite Educators Association. She was selected as the 1987 International Lecturer

for the National Science Teachers Association/Association for Science Education in the United Kingdom.

**Deborah Meier**

Deborah Meier is principal of the **New York** City Public Schools' Central Park East Secondary School, where she also teaches one class a day. Ms. Meier was awarded a 1987 MacArthur Fellowship for her work in establishing a group of inner-city elementary and secondary schools that provide challenging and creative learning environments, the first teacher to ever receive this distinction. Ms. Meier has been a teacher in Chicago, Philadelphia, and New York, where she taught kindergarten and Head Start and served as adjunct professor at several colleges and universities. Central Park East Secondary is a participating school in Brown University's Coalition for Essential Schools.

**Damon P. Moore**

Damon P. Moore is the immediate past president of the **Indiana** State Teachers Association (ISTA), and is currently on leave from teaching biology and chemistry at Muncie Northside Middle School in Muncie, Indiana. While on leave, Mr. Moore is serving as an educational technologies consultant to IBM's Educational Division which is working on, among other things, the Indiana "Buddy Project," an innovative education project taking computers into the home and the schools. Mr. Moore serves on the Indiana Curriculum Advisory Committee, developing the plan for Indiana Schools for the 21st Century; the Educational Advisory Committee for the Indiana Corporation for Science and Technology; and other state and national boards. In August 1989, Indiana Governor Evan Bayh honored Moore for his work and dedication to the education of children in Indiana by naming him a "Sagamore of the Wabash," the highest of all honors given to Hoosier citizens.

**Patrick F. O'Rourke**

Patrick F. O'Rourke is president of the Hammond Teachers Federation, a member of the **Indiana** Federation of Teachers Executive Board, and a government teacher at Hammond High School. He also serves as an instructor in labor relations and is a member of the Labor Studies Advisory Committee at Indiana University-Northwest. Mr. O'Rourke is a member of the Indiana Curriculum Advisory Council and served on the Governor's Study Committee to establish a statewide principals academy.

**James R. Oglesby**

James R. Oglesby is director of facilities utilization at the University of **Missouri,** Columbia. Early in his education career, he was a junior high school life sciences teacher. He is the immediate past president of the National School Boards Association and a member of the board of directors of the Missouri School Boards Association. Mr. Oglesby has been a member of the Columbia Board of Education since 1974, serving as president for two terms and vice president for three terms. He currently serves on President Bush's Education Policy Advisory Committee.

**Rebecca Ann Palacios**

Rebecca Ann Palacios is a bilingual prekindergarten teacher at Zavala Special Emphasis School in Corpus Christi, **Texas**, and a member of the Texas Commission on Standards for the Teaching Profession. She was the district's Teacher of the Year and a past president of the Corpus Christi

Association for Bilingual Education. An AFT building representative, Ms. Palacios has co-written several kindergarten and pre-kindergarten curriculum handbooks and guides for the Corpus Christi Independent School District. Ms. Palacios is also founder and president of the Pre-Kindergarten Professionals and Paraprofessionals Association in Corpus Christi, and is an adjunct instructor, Early Childhood Specialist Department, Del Mar College, Corpus Christi.

**Thomas W. Payzant**

Thomas W. Payzant has been superintendent of the San Diego (**California**) City Schools since 1982. Mr. Payzant previously held superintendencies in Oklahoma City; Eugene, Oregon; and suburban Philadelphia. Prior to that he was a junior high and high school history teacher in Tacoma, Washington, and Belmont, Massachusetts. As superintendent in San Diego, Mr. Payzant has initiated new policies to identify and help at-risk students, expanded the magnet school program, engaged mentor teachers in curriculum development and, in cooperation with teachers, other staff and community members, begun restructuring schools to improve teaching and learning for all students. Mr. Payzant is chair of the Council for Basic Education, a trustee of The College Board, and past president of the Large City School Superintendents.

**Doris D. Roettger**

Doris D. Roettger is a reading/language arts coordinator at Heartland Area Education Agency 11 in Johnston, **Iowa**. She has been an elementary teacher, a Title I reading teacher, and a faculty member at Drake University. Ms. Roettger is vice president of the International Reading Association (IRA) and has also served on the IRA Board of Directors, during which time she chaired a special committee that resulted in cooperation between the IRA and the National Association of State Coordinators for Chapter 1. She is the author of teaching guides for children's literature that are in use in elementary schools across the United States, and is a frequent presenter at conferences and workshops. Ms. Roettger has also served on the Governor's Task Force for Teacher Preparation and Teacher Participation, and the Legislative Task Force on Teacher Preparation.

**Mary Budd Rowe**

Mary Budd Rowe is a professor of science education at Stanford University in **California**, and a past president of the National Science Teachers Association (NSTA). She currently serves on the council of the American Association for Advancement of Science. Ms. Rowe has twice served as chair of the NSTA Research Committee and has been head of the research program on teaching and learning science at the National Science Foundation. She has won awards from NSTA, the American Educational Research Association and the National Association for Research in Science Teaching. Known for her research on wait time, she is currently working on a Carnegie Corporation project to organize science curriculum materials on video discs.

**Franklin D. Schlatter**

Franklin D. Schlatter is an English teacher at Roswell High School in **New Mexico**, having previously taught both elementary and junior high school students. Mr. Schlatter is a former representative-at-large on the Executive Committee of the National Council of Teachers of English (NCTE), and he served on the NCTE Task Force on the Future of the

Council. A past president of the New Mexico Council of Teachers of English (NMCTE) and that organization's executive secretary from 1978-84, Mr. Schlatter resumed the NMCTE executive secretary position in the fall of 1990. He is a former chair of NCTE's SLATE (Support for the Learning and Teaching of English) Steering Committee, and he now is a member of NCTE's National Certification and Assessment of English Language Arts Teachers Committee. He is also a member of the Educational Issues Committee of the National Education Association of New Mexico.

**Thomas F. Sedgwick**

Thomas F. Sedgwick is a mathematics teacher at Lincoln High School in Tacoma, **Washington**, where he also serves as a building program administrator. An active participant in National Council of Teachers of Mathematics activities, he was a member of the team that developed the mathematics curriculum guidelines for Washington State. Mr. Sedgwick also served on the state's Subject Area Teaching Certificate Endorsement Standards Committee, and was recipient of a 1983 Presidential Award for Excellence in Mathematics Teaching. He is treasurer of the Washington State Mathematics Council, and is a member of the Educator's Advisory Board for Channel One.

**Albert Shanker**

Albert Shanker has been president of the American Federation of Teachers, AFL-CIO, since 1974 and, from 1964 until 1986, of its **New York** City local, the United Federation of Teachers. Mr. Shanker's first exposure to the classroom was as a junior high school math teacher in the New York City Schools. He is currently president of the International Federation of Free Teachers' Unions, an organization of teacher unions in the democratic countries. Mr. Shanker is a vice president of the AFL-CIO and sits on its Executive Council. He is a member of the President's Education Policy Advisory Committee and the White House Competitiveness Policy Council, and is a board member of the 20th Century Fund, the Aspen Institute for Humanistic Studies, the RJR Nabisco Next Century Schools Advisory Board and the National Commission on Music Education. Mr. Shanker lectures at Harvard University's Graduate School of Education, and is a member of the National Academy of Education.

**Susan A. Stitham**

Susan A. Stitham chairs the English Department and teaches both advanced placement English and remedial classical literature at Austin E. Lathrop High School in Fairbanks, **Alaska**, having previously taught at the junior high school level. She is formerly Alaska's representative on the National Education Association's Board of Directors, and is a past president of both NEA/Alaska and the Fairbanks Education Association. Ms. Stitham is a former Alaska director to the National Council of Teachers of English, and has been Fairbanks' Teacher of the Year. She currently serves on the Alaska Certification Advisory Council, and is secretary on the University of Alaska's Board of Regents.

**Peggy A. Swoger**

Peggy A. Swoger teaches English and is the department chair at Mountain Brook Junior High School in Mountain Brook, **Alabama**. Since 1982, she has been involved with the National Writing Project at Auburn University and with the American/Swedish Writing Institutes in Gothenberg, Sweden. Ms. Swoger has served on the National Advisory Board for the Writing Project and has co-directed the

Writing Project at Auburn University and presently at Samford University in Birmingham, Alabama. She is also currently president of the Alabama Council of Teachers of English and both writes and speaks on current theory and practice in teaching composition. In 1987 she was selected by the National Council of Teachers of English as a representative to the English Coalition. The Disney Channel and the Council for Civic Education selected Ms. Swoger as one of thirty-four outstanding teachers in the country to be featured in the 1991 Disney Salute to the American Teacher.

**Irene Phelps Thorman**

Irene Phelps Thorman is currently serving as an interdisciplinary team leader at Schwab Middle School in Cincinnati, **Ohio**, and teaches English language arts and reading to seventh-grade students. At the end of this assignment, she will return to her position as coordinating teacher for the Occupational Work Adjustment/English as a Second Language program at Withrow High School in Cincinnati, where she also chairs the ESL Department. She has previously taught English, reading, American history, speech, drama, and kindergarten. Ms. Thorman co-facilitates the district's peer review panel, co-chaired the committee that wrote the original guidelines for the Peer Appraisal and Assistance Program in Cincinnati, and chaired the Cincinnati Federation of Teachers' Educational Policies Committee. In 1985-86 she was recognized as the Cincinnati Federation's Teacher of the Year.

**Gerald N. Tirozzi**

Gerald N. Tirozzi has been commissioner of education for the state of **Connecticut** since 1983, where he has been instrumental in the development and implementation of the state Education Enhancement Act of 1986 which raised teacher standards and salaries. Formerly a teacher and principal in New Haven, he also served as director of community, middle and secondary schools before becoming superintendent in New Haven in 1977. Dr. Tirozzi is a member of the boards of the Educational Testing Service and the Council of Chief State School Officers, chair of the Agency for Instructional Technology, and an advisor for Dr. John Goodlad's study on "Studying the Education of Educators." Dr. Tirozzi was the first state education official to be honored with the NAACP Connecticut Chapter's 1990 Equal Opportunity Award.

**Lois Jean Turner**

Lois Jean Turner is a retired second grade teacher in St. Louis, **Missouri**, having spent 40 years in classrooms ranging from kindergarten to ninth grade. She also served as a pilot teacher for the district with responsibilities for introducing new curricula to her colleagues. Since 1972, Ms. Turner has been a trustee of a privately endowed fund that provides financial assistance to St. Louis teachers seeking advanced degrees and other opportunities for continuing their professional development. She was appointed by the Missouri State Board of Education to serve on a committee charged with evaluating their Excellence in Education Act, and has twice served on the Executive Board of the St. Louis Teachers' Union.

**Adam Urbanski**

Adam Urbanski is president of the Rochester Teachers Association in Rochester, **New York**, and a vice president of the American Federation of Teachers. A native of Poland, he has taught history to high school students and served as an adjunct faculty member at Rochester Institute of Technology, Nazareth College, Monroe Community College, and the University of Rochester. Mr. Urbanski served on the AFT Task Force on the Future of Education. He is a

trustee of the National Center on Education and the Economy, and served on the Harvard University Kennedy School of Government Executive Session on "Making the System Work for Children in Poverty." He now serves on the U.S. Department of Education's Fund for Improvement and Reform of Schools and Teaching (FIRST) Board of Directors. Most recently, he was appointed to the National Advisory Board of Harvard University's National Center for Educational Leadership and to the board of advisors of "Education for Democracy/International."

**Alma Garcia Vining**

Alma Garcia Vining is assistant principal at Ira J. Earl and Lomie Heard elementary Schools in Las Vegas, **Nevada**. Until recently a fourth-grade teacher, she began her career in Texas where she taught in an elementary bilingual-bicultural program, and also worked with adults on English language proficiency. She has received the Educational Excellence Award for Language Arts, and the New Teacher In-Service Award from the Clark County School District. In addition, Ms. Vining was named Nevada's Hispanic Teacher of the Year in 1985 by the League of United Latin American Citizens. A presentor to groups of Hispanic parents, she is a member of the board of the Hispanic Educators of Nevada, a group whose goal is to assist Hispanic students in their educational endeavors. She has also written federal grants for her school on programs dealing with student self-esteem and anti-drug and gang involvement.

**Janice F. Weaver**

Janice F. Weaver is president of the American Association of Colleges of Teacher Education (AACTE) and has been active in the organization for thirty years. She was recently named chair of the Executive Board of the National Council for the Accreditation of Teacher Education. Dr. Weaver is dean of the College of Education at Murray State University in **Kentucky**, where she is also a professor of education. She has also served as president of the Teacher Education Colleges of State Colleges and Universities. A former high school teacher in Owensboro, Kentucky, she was a member of the Governor's Commission on Early Childhood Education, and has served on several committees for the Kentucky State Education Department. In November 1990, Dr. Weaver was appointed by the governor and elected chair of the first Kentucky Educational Professional Standards Board, created by the 1990 Kentucky Education Reform Act. She serves as the liaison for AACTE to the National Association of State Departments of Teacher Education and Certification.

**Reg Weaver**

Reg Weaver is a science and health teacher at Brooks Junior High School in Harvey, **Illinois**. He is a past president and vice president of the Illinois Education Association. Mr. Weaver has served on several statewide committees and panels, including the Illinois Commission for Improvement of Elementary and Secondary Education, the Illinois Literacy Council, the Blue Ribbon Committee on Improvement of Teaching as a Profession, and the state certification board. He has also been a member of the National Education Association's Committee on International Relations and the National Council of State Education Association's Executive Committee. Mr. Weaver is currently a member of the NEA Executive Committee.

**Nettie Webb**

Nettie Webb is principal of the Highview School for grades K-3 in the Greenburgh Central School District Seven in Hartsdale, **New York**. She was previously a classroom

teacher in Greenburgh and also served as language arts coordinator in that district. She has been a member of the New York State Task Force on Teaching as a Profession, where she co-chaired its committee on recruitment. Ms. Webb has also served on the New York State Board of Regents Certification and Practices Board, the Laboratory Peer Review Panel of the National Institute of Education, and was an adjunct instructor at the College of New Rochelle.

**Terry L. Wyatt**

Terry L. Wyatt is a physics teacher and consultant with the School Consultation Program of the Toledo (**Ohio**) Public Schools. Prior to working as a consultant, he taught physics, chemistry, and physical science at DeVilbiss High School in Toledo. Mr. Wyatt serves on the board of the Toledo Federation of Teachers and has been vice president of the Ohio Federation of Teachers, a member of the Education Commission of the States' Task Force on Teacher Evaluation, and a member of the Governor's Task Force on School Discipline. He also works as a team leader for Toledo's Dial-A-Teacher Program.

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# ACKNOWLEDGEMENTS

## Acknowledgements

In April 1988, the NBPTS Board of Directors divided itself into three working groups to begin developing the policies that appear in this report. One year later, at its April 1989 meeting, the initial National Board policies that form the core of this report were approved. Throughout this time several consultants worked closely with the working groups, informing their deliberations and collaborating with the staff in drafting various segments of this report. Principal contributors were Gary Sykes and Suzanne Wilson on certification standards issues, Marshall Smith on the framework of National Board Certification, Lloyd Bond, Nancy Cole and Lee Shulman on assessment issues, Denis Doyle on the condition of American education, and Graham Finney on strategic planning and implementation matters.

To ensure that the NBPTS board had the benefit of the many diverse and rich perspectives that populate the American education landscape, draft copies of key chapters were circulated to a broad spectrum of leaders in the education community for their comment and critique. This process elicited not only a strong measure of enthusiasm from almost all the respondents, but many constructive suggestions that have been incorporated in this report. In addition, much thoughtful advice was offered on the challenges confronting the National Board as it moves to its next phase of work.

Those who responded with energy and insight were:
William G. Demmert, Alaska Department of Education
Shirley M. Malcolm and F. James Rutherford, American Association for the Advancement of Science
David G. Imig, American Association of Colleges for Teacher Education
Dale Parnell, American Association of Community and Junior Colleges
Jack M. Wilson, American Association of Physics Teachers
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